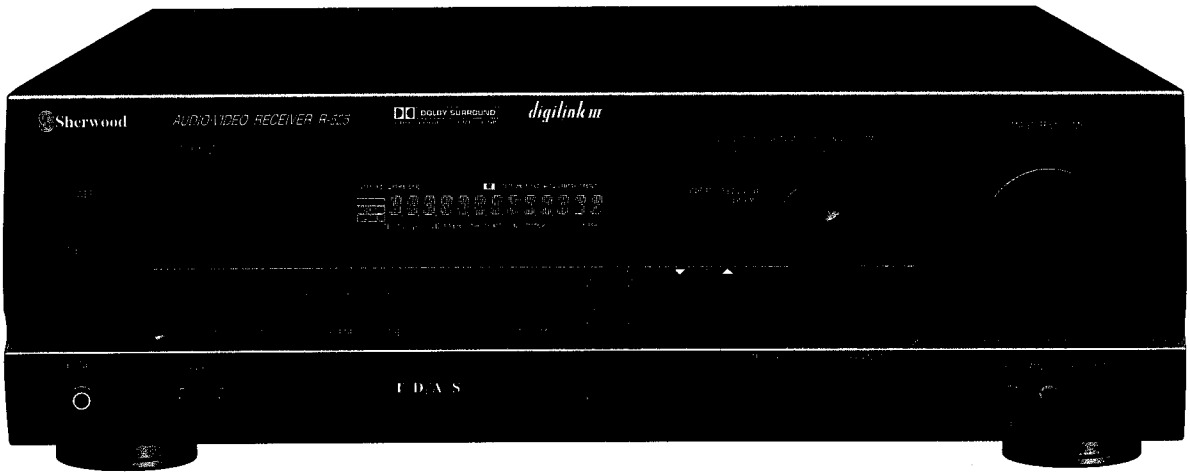
SERVICE MANUAL

R-525/RDS

AUDIO/VIDEO PRO-LOGIC RECEIVER



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Sherwood®

SAFETY PRECAUTIONS

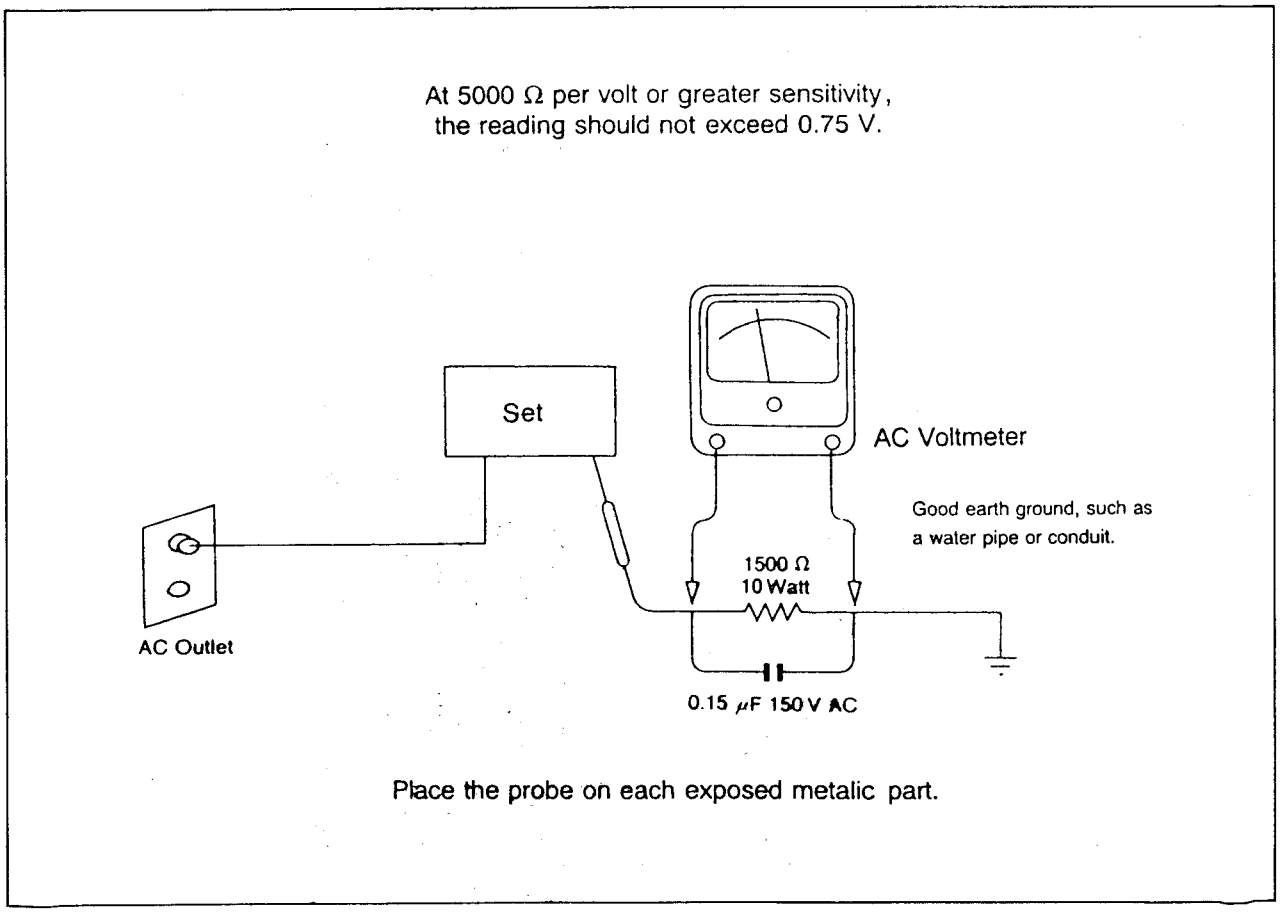
WARNING

Before servicing this unit, familiarize yourself with the following precautions:

1. Many electrical and mechanical parts in this chassis have special safety characteristics that often pass unnoticed and the protection afforded by them cannot necessarily be obtained by using replacement components rated for higher voltge, wattage, etc. Replacement parts that have these special safety characteristics are identified in this manual and its supplements: electrical components having such features are identified by ! in the schematic diagram and the parts list.

   Before replacing any of these components, read the parts list in this manual carefully. The use of substitute replacement parts that do not have the same safety characteristics as specified in the parts list may create shock, fire, or other hazards.

2. Before returning the set to the customer, always do an AC leakage current check on the exposed metal parts of the cabinet, such as terminals, screw heads, and metal overlays, to be sure the set is safe to operate danger of electrical shock. Plug the AC line cord directly into a 120 V AC outlet (120 V AC version only). (Do not use a line isolation transformer during this check.) Be sure your AC voltmeter has a sensitivity of 5000 Ω per volt or greater. Then connect a 1500 Ω 10 watt resistor, paralleled by a 0.15 μF 150 V AC capacitor, between a known good earth ground (such as a water pipe, or conduit) and the exposed metalic is parts, one at a time. Measure the AC voltage across the combination of a 1500 Ω resistor and a 0.15 μF capacitor. Reverse the AC plug at the AC outlet and repeat AC voltage measurements for each exposed metalic part. Voltage measured must not exceed 0.75V RMS. This corresponds to 0.2 mA AC. Any value exceeding this limit constitutes a potential shock hazard and must be corrected immediately.


At 5000 Ω per volt or greater sensitivity,
the reading should not exceed 0.75 V.
Set
AC Voltmeter
Good earth ground, such as
a water pipe or conduit.
1500 Ω
10 Watt
AC Outlet
0.15 μF 150 V AC
Place the probe on each exposed metalic part.

SPECIFICATIONS

☞ FRONT AMP SECTION

Measuring methods are based on IHFand IEC standard 268-3.
Measurements conditions, unless otherwise noted :
* Output resistive load : 8 ohms/Both channel driven
* Tone(Bass, Treble), Balance, EQ control : Center Position, Other SW's : OFF.
* Nominal input level : 5 mV for MM, 0.5 mV for MC, 500 mV for general purpose inputs.
* Power figures should be kept minimum 10 min. between 15 and 35 ℃.
* Terminator : 100 ohm for MC, 1 kohm for MM and general purpose inputs.
* Filter : IHF-A filter * R/O : Rated Output

NO	DESCRIPTION	INPUT	FREQ.	REMARK	UNIT	LIMIT	NOMINAL
1	Input Sensitivity	AUX	1 kHz		mV	200±50	200±30
		MM	1 kHz		mV	2.5±0.5	2.5±0.3
2	Channel Balance	AUX	1 kHz	R/O TO -40dB	dB	±3	±2
			1 kHz	-40 TO -60dB	dB	±6	±4
3	Residual Noise	AUX	1 kHz	VOL min.	mV	≤1	≤7
4	Total Harmonic Distortion	AUX (500mV)	20Hz	R/O 1W	%	≤0.2	≤0.09
			1kHz	"	%	≤0.2	≤0.09
			20Hz	"	%	≤0.3	≤0.2
5	Continuous Average Power at (0.2)% THD	AUX	20Hz	8 ohms	W	90	92
			1kHz	"	W	90	92
			20Hz	"	W	90	92
6	IMD(SMPTE)	AUX(500mV)	60Hz=4	R/O	%	≤0.2	≤0.09
			7kHz=1	1W	%	≤0.2	≤0.09
7	S/N RATIO, IHF-A FILTER	AUX(500mV)	1kHz	R/O	dB	≥90	≥93
		MM(5mV)	1kHz	R/O	dB	≥68	≥72
8	Channel Separation	AUX(500mV)	100Hz	R/O -3dB	dB	≥45	≥55
			1kHz	"	dB	≥45	≥55
			10kHz	"	dB	≥40	≥45
9	Function Crosstalk	CD→AUX	1/10 kHz	"	dB	≥60/40	≥65/45
		AUX→MM	1/10 kHz	"	dB	≥60/40	≥65/45
		MM→AUX	1/10 kHz	"	dB	≥60/40	≥65/45
10	Frequency Response (-3dB)	AUX(500mV)		1W	Hz~kHz	20~50	10~60
11	Tone Control, ±10dB	AUX	100Hz	1W	dB	±10±2	±10±1
			10kHz	1W	dB	±10±2	±10±1
12	Subwoofer Out sub-vol +6d	AUX(200mV)	1kHz	M-Vol Max	V	2±0.5	2±0.3
13	Phono Equalization	PHONO	100Hz	TAPE OUT	dB	RIAA±1.5	RIAA±1
			10kHz	"	dB	RIAA±1.5	RIAA±1
14	Input Overload at 0.5% THD	MM	1kHz	TAPE OUT	mV	≥120	≥140
15	DIN Power at 1% THD	AUX	1kHz	R/O	W	≥100	≥110
16	Muting Level	AUX(500mV)	1kHz	R/O	dB	≥60	≥65

☞ REAR AMP SECTION

Measurements conditions : Input level 300mV, Rear level maz., Master volume adj. delay time 20ms

NO	DESCRIPTION		INPUT	FREQ.	REMARK	UNIT	LIMIT	NOMINAL
1	Power Output 0.7% THD		AUX	1kHz	8ohms	W	≥100	≥102
2	Total Harmonic Distortion		AUX	1kHz	1W	%	≤1	≤0.7
3	S/N Ratio	DOLBY	AUX		R/O	dB	≥55	≥63
	IHF-A Filter	STADIUM	AUX		"	dB	≥55	≥63
		THEATER	AUX		"	dB	≥55	≥63
		HALL	AUX		"	dB	≥55	≥63
4	Frequency Response		AUX	1kHz	1W	Hz~kHz	100~6	80~7
	at ±3 dB (ONLY DOLBY)		AUX					

☞ CENTER AMP SECTION

Measurements conditions : Input level 300mV, WIDE mode Center level max., Master volume adj.

NO	DESCRIPTION	INPUT	FREQ.	REMARK	UNIT	LIMIT	NOMINAL
1	Power Output at 0.3% THD	AUX	1kHz	8ohms	W	≥100	≥102
2	Total Harmonic Distortion	AUX	1kHz	1W	%	≤0.3	≤0.2
3	S/N Ratio, IHF-A Filter	AUX		R/O	dB	≥73	≥78
4	Frequency Response						
	DOLBY MODE NORMAL	AUX		1W	Hz~kHz	120~20	100~30
	WIDE	AUX		1W	Hz~kHz	60~20	40~30

☞ VIDEO SECTION

NO	DESCRIPTION	INPUT	FREQ.	REMARK	UNIT	LIMIT	NOMINAL
1	Output Level at 75ohms	VCR1(1Vp-p)	1MHz		Vp-p	1±0.2	1±0.1
2	Frequency Response	"	1MHz		Hz~MHz	DC~6	DC~6.3
3	S/N Ratio	"	1MHz		dB	40	45
4	Crosstalk	"	1MHz		dB	40	45

☞ AM SECTION

Measuring methods in confirmity with IEC standard 315

Measurements condition AM - MW

* Radio frequency = 1000/999kHz, Audio frequency = 400Hz
* LM : Radio frequency = 207kHz, Audio Frequency = 400Hz
* Reference level = 5 mV/m, 10 mV/m on 50 ohms
* Test point : MW TP1=594 kHz, TP2=999 kHz, TP3=1404 kHz (USA Version)
* Test point : MW TP1=600 kHz, TP2=1000 kHz, TP3=1400 kHz (Europe Version)
* Test point : LW TP1=162 kHz, TP2=207 kHz, TP3=1404 kHz (USA Version)
* Test point : LW TP1=600 kHz, TP2=1000 kHz, TP3=1400 kHz (Europe Version)

NO	DESCRIPTION			VERSION	UNIT	LIMIT	NOMINAL
1	Tuning Cover Range	LOW~HIGH		USA	kHz	520~1710	
				EUROPE	kHz	522~1611	
	STEP			USA	kHz	10	
				EUROPE	kHz	9	
2	Usable Sensitivity	MW TP1		USA	uV/m	≤800	≤500
		TP2			uV/m	≤800	≤500
		TP3			uV/m	≤800	≤500
		MW TP1		EUROPE	uV/m	≤800	≤500
		TP2			uV/m	≤800	≤500
		TP3			uV/m	≤800	≤500
3	S/N Ratio	MW		USA	dB	≥35	≥40
				EUROPE	dB	≥40	≥45
4	Total Harmonic Distortion			USA	%	≤2	≤1.0
				EUROPE	%	≤1.5	≤1.0
5	Over Load Distortion 5 mV 80 % MOD				%	≤10	≤5
6	Frequency Response at - 6 dB		MW		Hz	100~2 K	80~2.2K
7	Selectivity 10 kHz/ 9 kHz		MW		dB	≥20	≥25
8	AGC Figure of Merit				dB	≥50	≥55
9	Image Rejection	MW = TP3			dB	≥30	≥35
10	Whistle Modulation Input=1mV/m 21F				%	≤15	≤10
11	Auto Stop Level		MW		uV/m	800(±6dB)	800(±5dB)
12	Tuned Level		MW		uV/m	800(±6dB)	800(±5dB)
13	Output Level				mV	165±50	165±30

☞FM SECTION

Measuring methods in confirmity with IEC standard 315
Measurements condition FM : Radio frequency = 98.1 MHz, Audio frequency = 1kHz
* Reference level = 1mV on (75 ohms, 300 ohms)
* Deviation : MONO = ±75kHz, Stereo = ±67.5kHz ±7.5kHz (USA Version)
MONO = ±40kHz, Stereo = ±40kHz ±7.5kHz (Europe Version)
* Test Point : TP 1 = 90.1MHz, TP2 = 98.1MHz, TP 3 = 106.1MHz
* Filter = B.P.F at STEREO

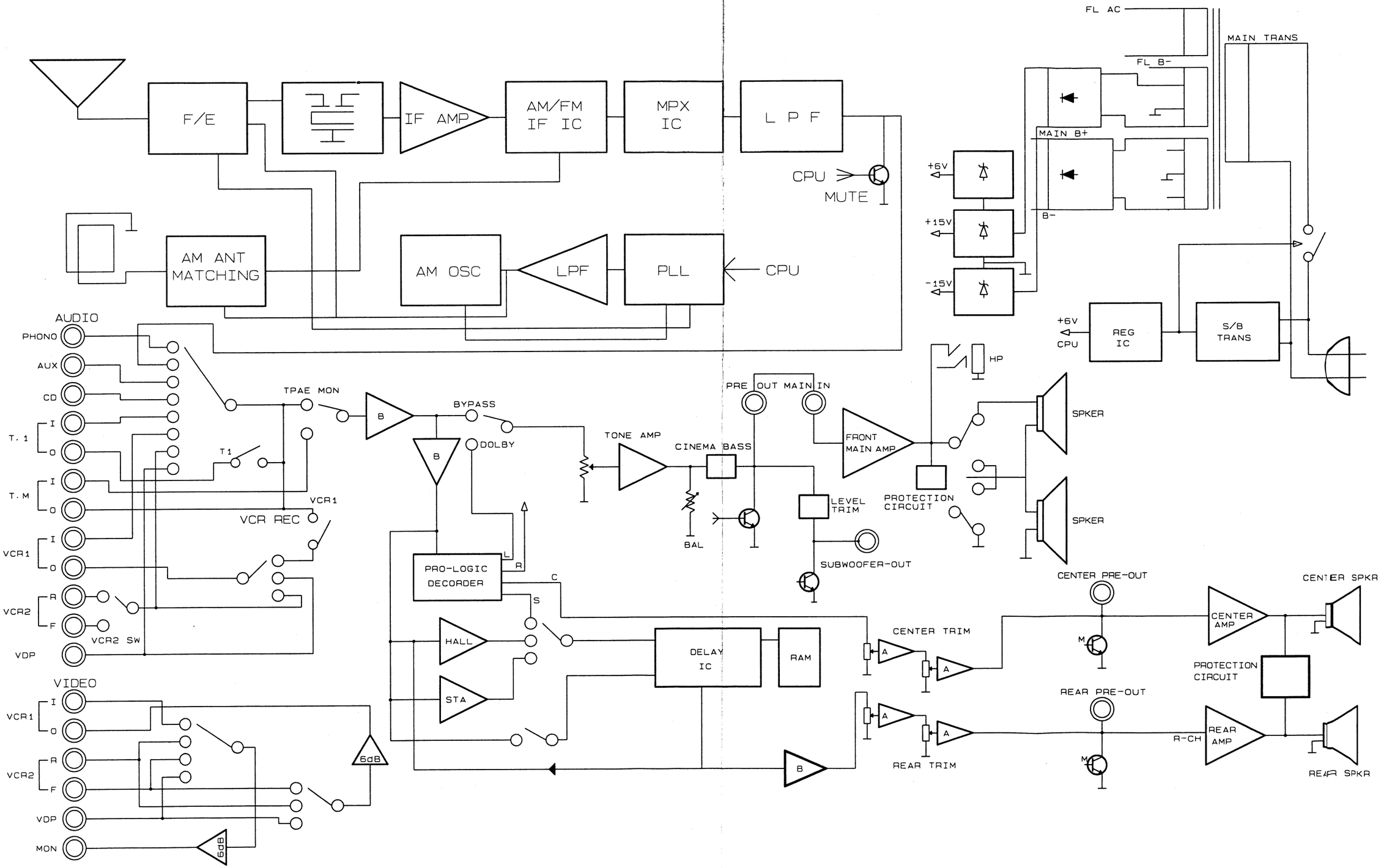
NO	DESCRIPTION			VERSION	UNIT	LIMIT	NOMINAL
1	Tuning Renge	LOW~HIGH		USA	MHz	87.5 ~ 107.9	
				Europe		87.5 ~ 108.0	
	Step	AUTO/Man		USA	kHz	200	
				Europe		100/50	
2	Usable Sensitivity	TP 1		USA	dBf	≤17.2	≤14.2
	S/N = 30 dB	TP 2			dBf	≤17.2	≤14.2
		TP 3			dBf	≤17.2	≤14.2
	S/N = 26 dB	TP 1		Europe	dBf	≤20.2	≤17.2
		TP 2			dBf	≤20.2	≤17.2
		TP 3			dBf	≤20.2	≤17.2
3	Full Limiting Sense	Output = -3 dB		USA	dBf	≤15.2	≤12.2
				Europe	dBf	≤20.2	≤17.2
4	Auto Stop Level				dBf	31.2±5	31.2±3
5	Auto Error			USA	kHz	±20	±25
				Europe	kHz	±15	±20
6	S/N Ratio		MONO		dB	≥64	≥68
			STEREO		dB	≥60	≥64
7	Total Harmonic Distortion		MONO		%	≤0.5	≤0.3
			STEREO		%	≤0.8	≤0.5
8	50 dB Quietion Sensitivity		MONO	USA	dBf	≤23.2	≤20.2
			STEREO		dBf	≤48.3	≤45.3
	46 dB Quietion Sensitivity		MONO	Europe	dBf	≤23.2	≤20.2
			STEREO		dBf	≤48.3	≤45.3
9	Channel Separation		100 Hz		dB	≥35	≥40
			1 kHz		dB	≥40	≥45
			10 kHz		dB	≥30	≥35
10	Frequency Response at ±1.5 dB				Hz	20~12.5	10~14
11	Spurious Response			USA	dB	≥70	≥80
				Europe	dB	≥80	≥90
12	IF Rejection		TP 1		dB	≥70	≥80
13	Image Rejection		TP 3	USA	dB	≥60	≥65
				Europe	dB	≥70	≥80
14	AM rejection Ratio				dB	≥50	≥55
15	Capture Ratio				dB	≤2.5	≤2
16	Alternative CH Selectivity ±400 kHz				dB	≥45	≥50
17	Output Level		MONO		mV	500±150	500±100
18	RDS Sensitivity			Europe	dBf	≤40.2	≤38.2

☞ GENERAL

Power consumption ---------- SA/Canade : 3A, Europe : 770W
Power Supplies ---------- USA/Canade : AC 120 V, 60Hz
Europe : AC 230 V, 50Hz
Dimensions (W×H×D) ---------- 440×140×340 mm
17-5/16×5-1/2×14-15/16 inchs
Weight (Net)---------- 14.4 kg (31.75 lbs)

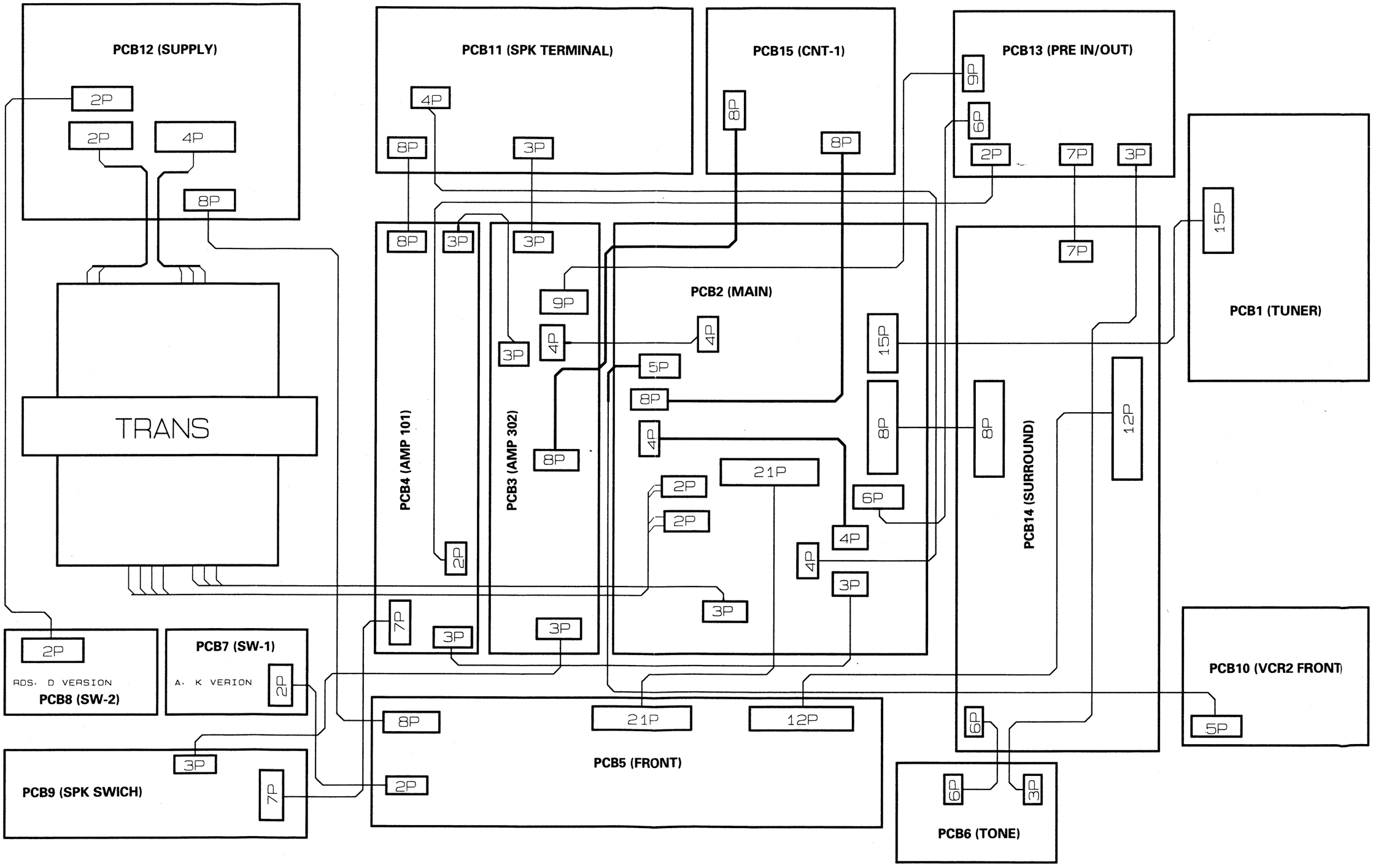
BLOCK DIAGRAM

Model No. : R-525/RDS



WIRING DIAGRAM

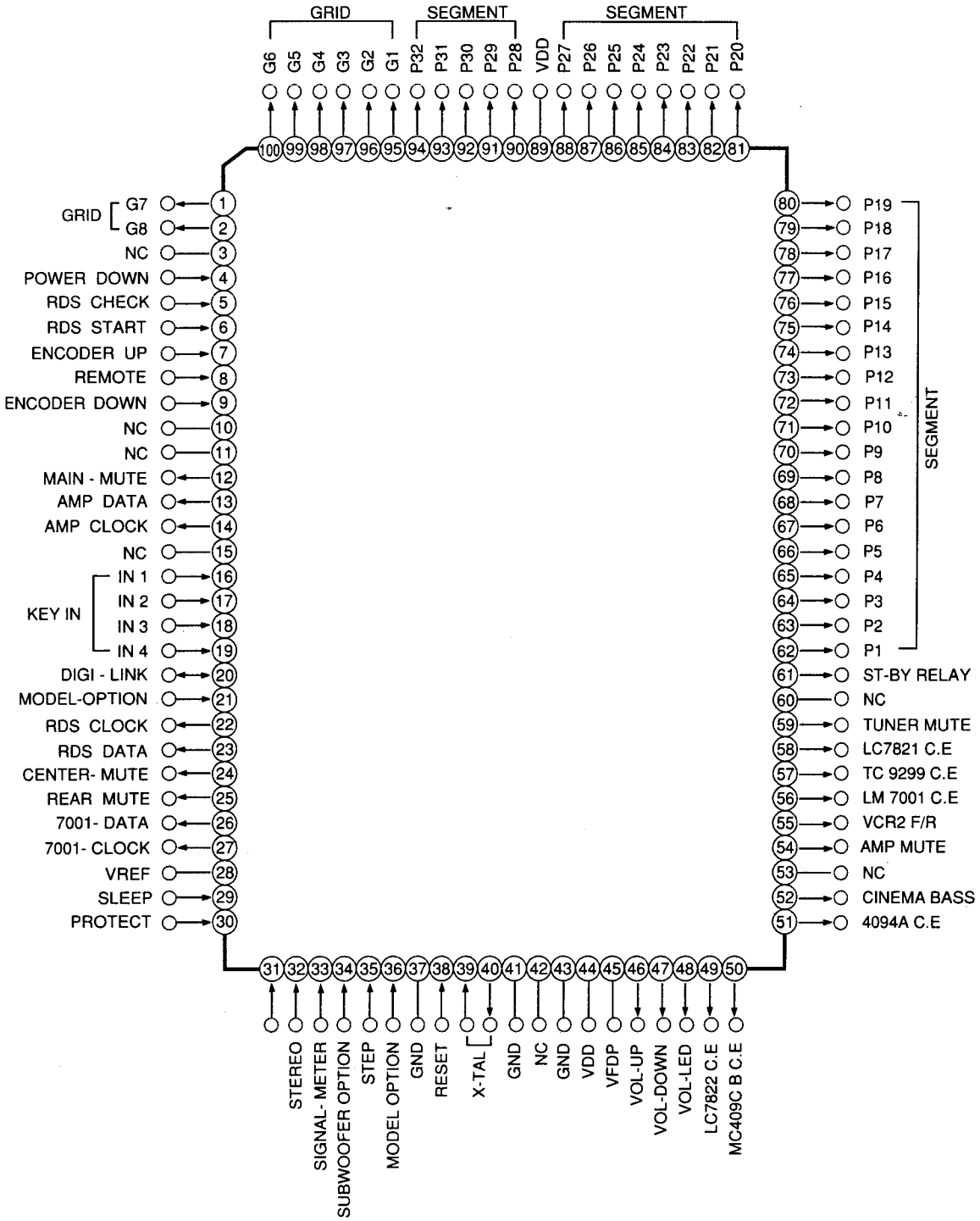
Model No. : R-525/RDS



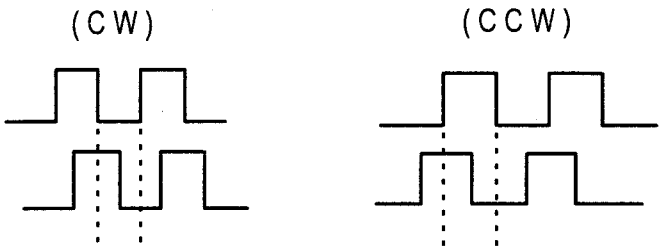
CIRCUIT DESCRIPTION

IC301 : CXP82832

1. Pin Description



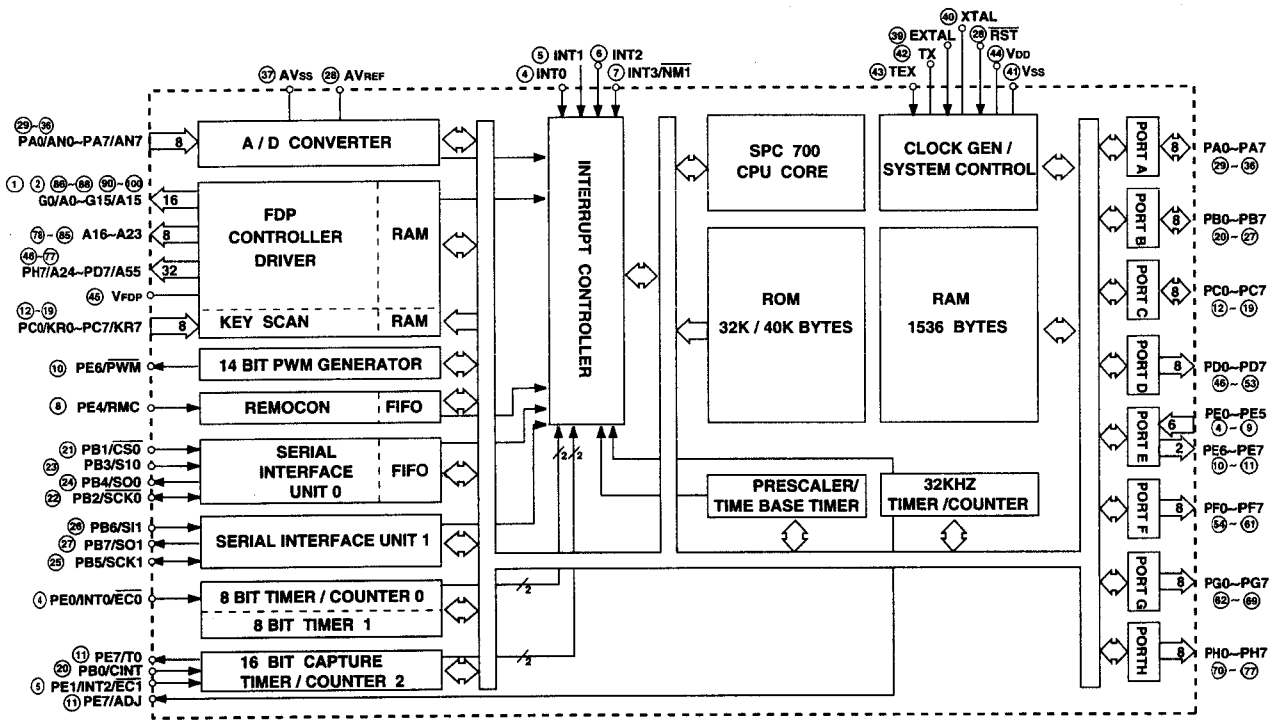
2. Input/Output Terminal Functions

Pin No.	Symbol	Description
1/2	G2/G1	Grid signal output for FIP.
3	NC	Not used.
4	POWER DOWN	Input for power down(Active low).
5	RDS CHECK	Input for RDS check.
6	RDS START	Input for RDS start.
7/9	ENC UP/DOWN	Input for Encoder up and down. 
8	REMOCON	Input for remote control signal. (Active low).
10/11	NC	Not used.
12	MAIN MUTE	Output for main mute. Output is low level under the following conditions. 1. When power is turned on or off. 2. When function is changed. 3. When MONO or STEREO is changed. 4. When Low level is inputed to "PROTECTION" port of CPU. 5. When mute signal is received from the commander.
13	DATA	Output datasignal to MC14094, LC7821, LC7822 and TC9299.
14	CLOCK	Output clock signal to MC14094, LC7821, LC7822 and TC9299.
15	NC	Not used.
16~19	KEY IN1~4	Input data of IN1~IN4 for key scan.
20	DIGI LINK	Input/Output for controlling digi-link III.
21	MODEL OPTION	Input for selecting Model. ('L'→R525, 'H'→R-725, AV725)
22	RDS CLK	RDS clock signal input for TDA7330B. (This input is used only for R525RDS)
23	RDS DATA	RDS data signal input for TDA7330B. (This input is used only for R525RDS)
24	C-MUTE	Output for center mute. Output is low level under the following conditions. 1. When power is turned on or off. 2. When center mode is on or off. 3. When center mode is switched.

<table>
<tr><th>Pin No.</th><th>Symbol</th><th>Description</th></tr>
<tr><td>24</td><td>C-MUTE</td><td>4. When test tone mode is on or off, When the channels is changed the test tone mode.
5. When Low level is inputed to "PROTECTION" of CPU.
6. When mute signal is received from the commander.</td></tr>
<tr><td>25</td><td>S-MUTE</td><td>Output for surround mute.
Output is low level under the following conditions.
1. When power is turned on or off.
2. When surround mode is on or off.
3. When test tone mode is on or off, When the channels is changed the test tone mode.
4. When delay time is changed.
5. When Low level is inputed to "PROTECTION" of CPU.
6. When mute signal is received from the commander.</td></tr>
<tr><td>26/27</td><td>7001-DATA/CLK</td><td>DATA/CLOCK Singnal output for LM7001.</td></tr>
<tr><td>28</td><td>AV REF</td><td>Referance voltage of analog A/D converter.</td></tr>
<tr><td>29</td><td>SLEEP OPTION</td><td>Input for selecting function. ('H'→St-by, 'L'→Sleep.)</td></tr>
<tr><td>30</td><td>PROTECTION</td><td>Signal input for protection wher low level is inputed, it ischinged to STAND-BY mode.</td></tr>
<tr><td>31</td><td>GND</td><td>Ground.</td></tr>
<tr><td>32</td><td>STEREO</td><td>Input for lighting the ST(Stereo), Inaicator(Active low).</td></tr>
<tr><td>33</td><td>S-METER</td><td>Input signal level of tuner.</td></tr>
<tr><td>34</td><td>SUBWOOFER OPTION</td><td>Inplut for selecting subwoofer, when high level is inputed subwoofer volume is operates.</td></tr>
<tr><td>35</td><td>STEP</td><td>According to region, input for selecting the frequency bands and steps for FM and AM
Settings are as follows
<table>
<tr><th>REGION</th><th>FREQUENCY BAND</th><th>STEP</th><th>PIN35(IC301)</th></tr>
<tr><td>USA/ CANADA</td><td>FM: 87.5~107.9 MHz
AM: 520~1710 kHz</td><td>200 kHz
10 kHz</td><td>0 V</td></tr>
<tr><td>EUROPE</td><td>FM: 87.5~108 MHz
AM: 522~1611 kHz</td><td>50 kHz
9 kHz</td><td>1 V</td></tr>
<tr><td>KOREA</td><td>FM: 87.5~107.9 MHz
AM: 522~1611 kHz</td><td>200 kHz
9 kHz</td><td>2 V</td></tr>
</table></td></tr>
<tr><td>36</td><td>SET OPTION</td><td>Input for selecting set. (5V→RDS Receiver, 2.5V→Amp, 0V→Receive)</td></tr>
<tr><td>37</td><td>ADGND</td><td>Ground</td></tr>
<tr><td>38</td><td>RESET</td><td>Input for resetting CPU. (Active high)</td></tr>
<tr><td>39/40</td><td>X-TAL I/O</td><td>Input/Output for cystal oscillator.</td></tr>
<tr><td>41</td><td>GND</td><td>Ground.</td></tr>
</table>

Pin No.	Symbol	Description
42	NC	Not used.
43	GND	Ground.
44	VDD	Power supply of CPU(+5V).
45	VFL	-30V Power supply for FIP.
46/47	VOL UP/DOWN	Output data for Master volume control.
48	VOL LED	Output signal for volume LED.
49	CE(7822)	LC7822 chip enable (Surround).
50	CE(4094)	14094 chip enable (Surround).
51	CE(4094)	14094 chip enable (Video).
52	CINEMA-BASS	Output signal for Cinema-Bass function (High Active).
53	NC	Not used.
54	AMP-MUTE	When the power is on, control data output is high after 3 seconds. When the power is off, control data output is "L".
55	VCR2 OPTION	Output signal for VCR2 Inputs. ('H'-Front, 'L'-Rear)
56	CE(7001)	LM7001 chip enable.
57	CE(9299)	TC9299 chip enable. (Surr-Subwoofer Trim)
58	CE(7821)	LC7821 chip enable. (Function select)
59	T-MUTE	Output for tuner mute. Output is high level under the following conditions. 1. When power is turned on or off. 2. When tuner band is changed. 3. When tuning up or down button is pressed. 4. When preset button is pressed. 5. When displayed preset number is changed during memory scan. 6. When Low lever is inputed to "PROTECTION" of CPU. 7. When mute signal is received from the commander.
60	NC	Not used.
61	ST-BY	Output for driving power relay. (Active high)
62-70	S1-S9	Segment 1 - Segment 9.
71-81	S10-S20	Segment 10, Key check 11 - Segment 20, Key check 1.
82-88	S21-S27	Segment 21 - Segment 27.
89	VDD	+5V power supply.
90-94	S28 - S32	Segment 28 - Segment 32.
95-100	G8-G3	Grid 1 - Grid 5.

3. Block Diagram



4. Key Matrix

	Key Scan 2 Pin 80	Key Scan 3 Pin 79	Key Scan 4 Pin 78	Key Scan 5 Pin 77	Key Scan 6 Pin 76	Key Scan 7 Pin 75	Key Scan 8 Pin 74	Key Scan 9 Pin 73	Key Scan10 Pin 72	Key Scan11 Pin 71
Key in 1,Pin 16	Station Name	Center Level Down	Band	Tuning up	Memory Enter	7	4	Stereo	Search	Sleep
Key in 2,Pin 17	VCR 1 REC	Center Level Up	PTY Select	FM Mode	Tuning Down	8	3	Pro Logic	EON. TA	OFF
Key in 3,Pin 18	Tape2, Monitor	——	Stadium	Rear Level Down	0	9	2	Hall	EON. PTY	1
Key in 4,Pin 19	Video Labels	Center Mode	Cinema Bass	Rear Level Up	Frequency	6	5	Theater	Display	St-by

ALIGNMENT PROCEDURES

TUNER

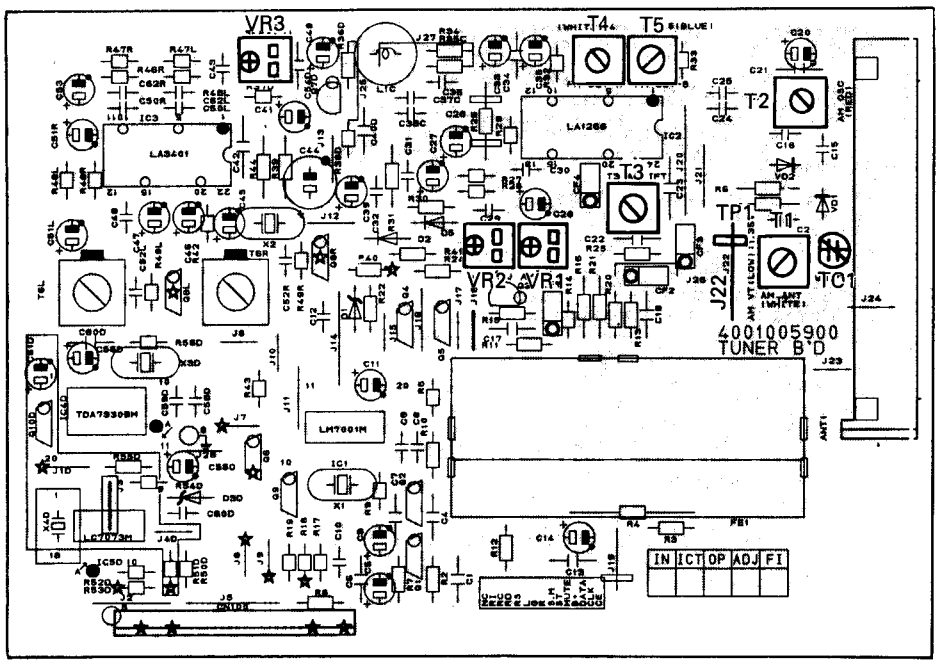
1. Equipment Required

- AM Standard Signal Generator (AM SSG)
- Oscilloscope
- AC Voltmeter
- FM Standard Signal Generator (FM SSG)
- Stereo Modulator
- Audio Generator
- Distortion Meter
- DC Voltmeter
- Frequency Counter

Note : Disconnect external FM antenna prior to alignment.

2. Alignment

2-1. Alignment and Test Point



2-2. AM Alignment

- Output of signal generator should not be greater than necessary to obtain an optimum output reading.
- Signal generator modulation : 30 %
- RF signal frequency : 400 Hz
- Switch : Press the BAND button to AM

Step	Subject	Signal Generator Frequency	Set Frequency Setting	Equipment Connection	Adjustment Point	Adjust for
1	Tuning Voltage	520kHz (522kHz)	520kHz 1) (522kHz)	DC Volt meter to J22 (TP1)	T2 AM OSC(R)	DC1.32V±1.35V
2	RF Tuning	600kHz (594kHz)	600kHz 1) (594kHz)	AC voltmeter and oscilloscope to speaker terminal of L or R channel	T1 MW ANT(W)	Maximize audio output
		1400kHz (1404kHz)	1400kHz 2) (1404kHz)		TC1	
		* Feed signal should be fed to loop antenna through the test loop antenna 60 cm distant from the appliance. * Repeat the step 1) and 2) until no further improvement occurs.				

3	IF	1000kHz (999kHz)	1000kHz (999kHz)	Ac voltmeter and oscilloscope to speaker terminal of L or R channel	T3 AM IFT	Maximize audio output
4	Tuned Level	1000kHz (999kHz) 800 μV/m	1000kHz (999kHz)		VR1	"Tuned" flag in the FL display light on

3-3. FM Alignment

- Output of signal generator should not be greater than necessary to obtain an optimum output reading.
- Signal generator deviation : USA/Canada/Korea : 75kHz. Europe : 40kHz
- RF signal frequency : 1 kHz
- Switch : Press the BAND button to FM and the FM MODE button to MONO

Step	Subject	Signal Generator Frequency	Set Frequency Setting	Equipment Connection	Adjustment Point	Adjust for
1	Tuning Band Width	98.1MHz (98MHz)	98.1MHz (98MHz)	DC Volt meter to R26(PCB1)	T4	Zero reading on DC Volt meter
2	THD	98.1MHz (98MHz)	98.1MHz (98MHz)	Distortion meter to TAPE OUT jack of L or R channel	T5	Minimize distortion
3	Tuned Level	98.1MHz (98MHz) SSG output level : 10 μV/m	98.1MHz (98MHz)		VR2	"Tuned" flag in the FL display light on

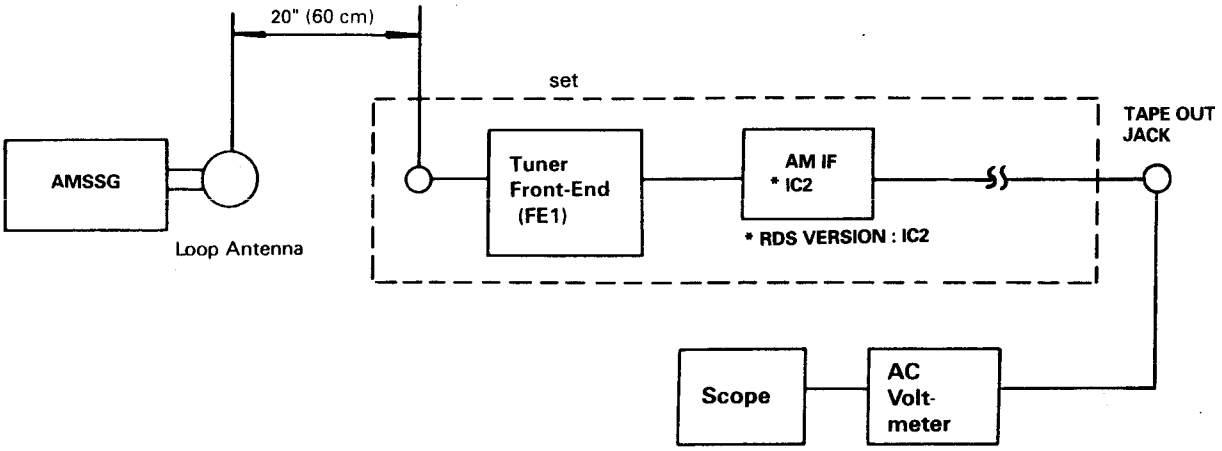
3-4. MPX Alignment

- Signal generator frequency : 98 MHz
- Signal generator deviation : USA : 75kHz. Europe : 40kHz
- RF signal frequency : 1 kHz
- Signal generator output level : 1000 μV/m
- Connect signal generator to FM antenna terminal through FM dummy antenna (75 Ω)
- Switch : Press the BAND button to FM and the FM MODE button to STEREO

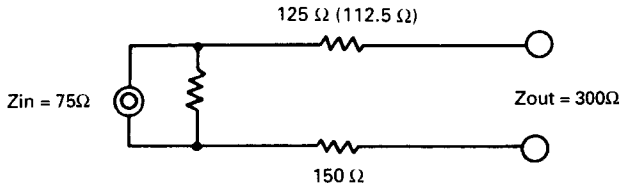
Step	Subject	19 kHz Modulation Level	Signal Generator Setting	Equipment Connection	Adjustment Point	Adjust for
1	Seperation R → L	8 % Modulation	Pilot on	AC voltmeter to speaker terminal of R channel	VR3	Set AC voltmeter to 0 dB
				AC voltmeter to speaker terminal of L channel		AC voltmeter reading should be at least 40 dB below
2	Seperation L → R	8 % Modulation	Pilot on	AC voltmeter to speaker terminal of L channel	VR3	Set AC voltmeter to 0 dB
				AC voltmeter to speaker terminal of R channel		AC voltmeter reading should be at least 40 dB below
If you could not obtain -40 dB readings in steps 1 and 2, readjust VR3 until you obtain -40 dB readings. Nominal is -45 dB. (Europe: Nominal -42 dB, Limit -37 dB)						

4. Equipment Connection

4-1. AM Alignment Connection

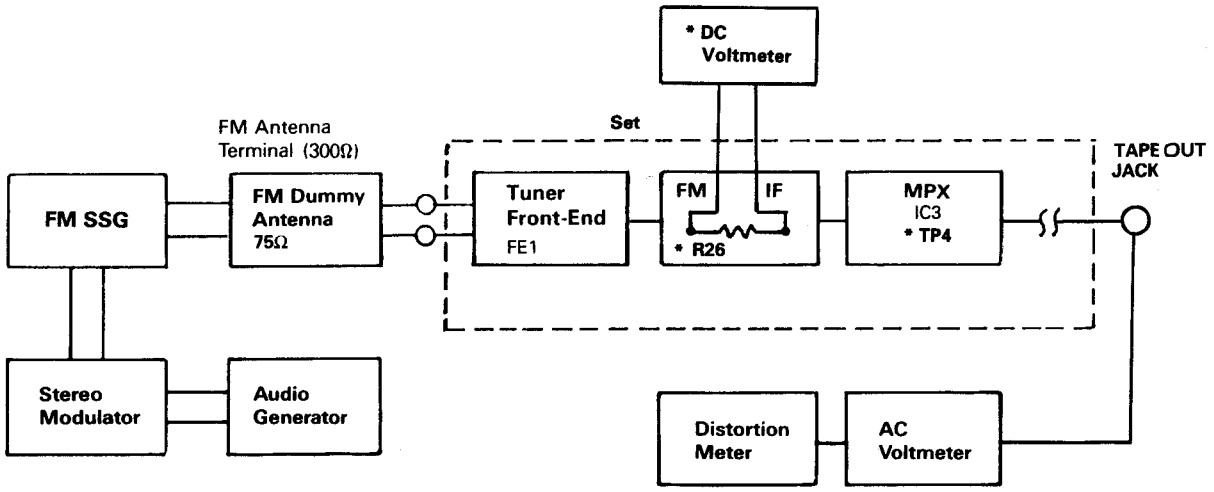


4-2. FM Dummy Antenna



FM Dummy Antenna to 300Ω Antenna terminal of system.

4-3. FM RF/IF and MPX Alignment Connection



TROUBLE SHOOTING

Symptom	Cause and Remedy
Receiver inoperative. (FL indicator does not light.)	A) Faulty AC power cord. Replace. B) Defective the power switch. Replace. C) Broken wire in the power transformer. Replace. D) Blown fuse. Replace the fuse.
Fuse blows when power is turned on.	A) Defective power transformer. Replace. B) Short on the primary or secondary of the transformer circuitry. Repair the short. C) Damaged rectifier D105-D112 or damaged transistor Q215L/R/C/SL, Q216L/R/C/SL. D) Short circuit in the amplifier circuit. Repair the shorted component(s) in the amplifier circuit.
Power indicator lights but no sound from both channels.	A) Defective in transistor Q215L/R, Q216L/R on the AMP302 Board. B) Pulled out of correct speaker swithch.
One channel does not work when volume is at maximum with a test signal applied to the center terminal of volume control of the dead channe.	A) Defective in transistor Q215L/R or Q216L/R on the AMP302 Board. Replace the defect. B) Break in copper foil of printed circuit board. Repair the defect. C) Short in speaker output terminal. Repair or replace.
Speaker works normally but headphones inoperative.	A) Headphone plug does not match with jack. Replace the jack. B) Defective resistor R701L/R. Replace.
FM inpoerative	A) Defective front-end (FE). Replace. B) Defective FM switch. Replace the switch. C) Defective transistor Q3 and ICS (IC2,IC3). Replace the defective transistor or IC(s). D) Defective coil T4, T5. Replace the coil(s). E) Defective lead-in. Repair or replace the lead-in. F) Ceramic filters CF1, CF3 defective. Replace the defective ceramic filter(s).

Symptom	Cause and Remedy
Poor multiplex separation.	A) Improper adjustment. Readjust VR3. B) IC3 defective. Replace. C) Variable resistor VR3 defective. Replace the variable resistor.
STEREO indicator does not light.	A) Defective indicator in FL. Replace. B) Improper adjustment of VR2 of tuner board. Make readjustment. C) Defective IC2. Replace the defective component.
FM volume is insufficient.	A) If volume from both L and R channels is not loud enough : Front end section defective. Faulty IC2, Coil T4 or T5. If sound of one channel is not loud enough : Defective VR3.
FM Mono has no effect.	A) Defective FM MODE switch. Replace.
AM inoperative.	A) Damaged IC2 of tuner Board. Replace. B) Defective T1, T2, T3 or CF4 of Tuner Board. Replace the defective component(s). D) Defective varicap diodes VD1 or VD2. Replace varicap diods(s). E) Damaged AM loop antenna. Repair or replace.
Bass control has no effect.	A) Variable resistor BASS defective. Replace.

Symptom	Cause and Remedy
Treble control has no effect.	A) Variable resistor TREBLE defective.
Auto tune inpoerative. (UP/DOWN)	A) Poor contact in Up/Down key. Repair or replace. B) Defective IC301. Replace. C) Defective tuner Circuit components. Replace. D) In case of FM only, improper adjustment of FM front-end. Readjust.
Manual tune inpoerative. (UP/DOWN) (AM or FM)	A) Poor contact in Up/Down key. B) Defective IC301. Replace.
Memory setting inpoerative.	A) Poor contact in memory keys 1-10. Replace the defective component. B) Defective IC301. Replace the defective component.
FL inoperative.	A) FL defective. Replace. B) Defective IC301. Replace. C) Defective X-TAL 301. Replace.
Noisy volume control.	A) Defective volume. Replace.
Remote Control Unit inoperative.	A) Weak battery. Replace. B) Defective. Replace. C) Defective IC301 (FRONT Board) Replace.

MECHANICAL PARTS LIST

Ref. No	Description	Part No.	Q'ty
	PACKAGE		
	BOX CARTON	601704099016	1
	BOX CARTON	601704099019	1
	POLY BAG	633004009201	1
	FILM SOFT PE	632004005201	1
	CUSHION PLOY	623004279401	1
	ACCESSORIES		
	ANTENNA WIRE DIPOLE	E60501C01000	1
	MATCHING TRANS	L10928400720	1
	COMMANDER ASSY	830004025X01	1
	BATTERY 1.5V AA (R6M)	G670001R5012	2
	MANUAL INSTRUCTION	570704594002	1
	CABINET & CHASSIS		
1	PANEL FRONT	306704346801	1
(1)	PANEL FRONT	306704610801	1
(1)	PANEL FRONT	306704611801	1
2	KNOB MAIN	508704076801	1
3	KNOB ENCODER	508704077801	1
4	KNOB ROTARY(A)	509705064101	3
5	BADGE	563704059101	1
6	WINDOW FL	507704006301	1
(6)	WINDOW FL	507704007301	1
7	DECORATION CAP	048522006111	1
(7)	DECORATION CAP	048522006112	1
8	BODY FRONT	048521010721	1
(8)	BODY FRONT	341704072101	1
(8)	BODY FRONT	341704072102	1
9	JACK RCA, 3P	G60604030000	1
10	BRACKET JACK SWITCH	401004361601	1
11	BUTTON PUSH	509006682101	2
12	INDICATOR STANDBY	516004064301	1
13	BUTTON STANDBY	509005923101	1
14	BUTTON POWER	509005907101	1
15	BUTTON POWER	509005399101	1
16	HOLDER FL	432004084101	2
17	SHIELD FENCE	307004657601	1
18	CHASSIS FRONT	321004106601	1
19	COVER BOTTOM	431004199602	1
20/21	FOOT AL	400704102101	2
22/23	FOOT PL	400004020101	2
24	FRME RIGHT	320004771601	1
25	CUSHION FL B'D	405004226501	2
26/27	HEATSINK, REG TR	212004433801	2
28	HEATSINK, REG TR	212004435801	1
29-35	HEATSINK, REG TR	212004433801	7
36	FASTENER	442004032301	2
37	SUPPORTER PCB	442001015301	2
38	HEATSINK POWER	212004090801	1
39	FRME LEFT	320004770601	1
40	COVER INSULATION	124004389201	1
41	OUTLET AC	G43504007000	1
42	OUTLET AC	G43504011000	1
(42)	OUTLET AC	G43004040001	1
43	JACK MULTI ROOM	G40204207000	1
44	JACK RCA, 3P	G60630039502	1
45	JACK RCA, 2P	G60120090002	1
46	JACK RCA, 3P	G60630039002	1
47	JACK RCA, 9P	G60790150001	1
48	JACK RCA. 4P	G60240091001	1
49	JACK RCA., 6P	G60360092002	1
50	JACK RCA, 2P	G60120044002	1
51	JACK RCA, 6P	G60360092002	1
52	JACK RCA, 4P	G60240091001	1
53	ANTENNA TERMINAL	G59004047000	1
(53)	ANTENNA TERMINAL	G59004046000	1
54	JUMPER PLUG	L06304075000	2
55	HOLDER PCB	432004475101	1
56	TERMINAL SPEAKER, 4P	G61204030000	1
57	TERMINAL SPEAKER, 2P	G61104031000	1
58	TERMINAL SPEAKER, 8P	G61404021000	1
59	BUSHING TERMINAL	241004027001	14
60	GROUND TERMINAL	G61004006001	1
61	CHASSIS BACK	320704273601	1
(61)	CHASSIS BACK	320704273602	1
(61)	CHASSIS BACK	320704273605	1
(61)	CHASSIS BACK	320705315601	1

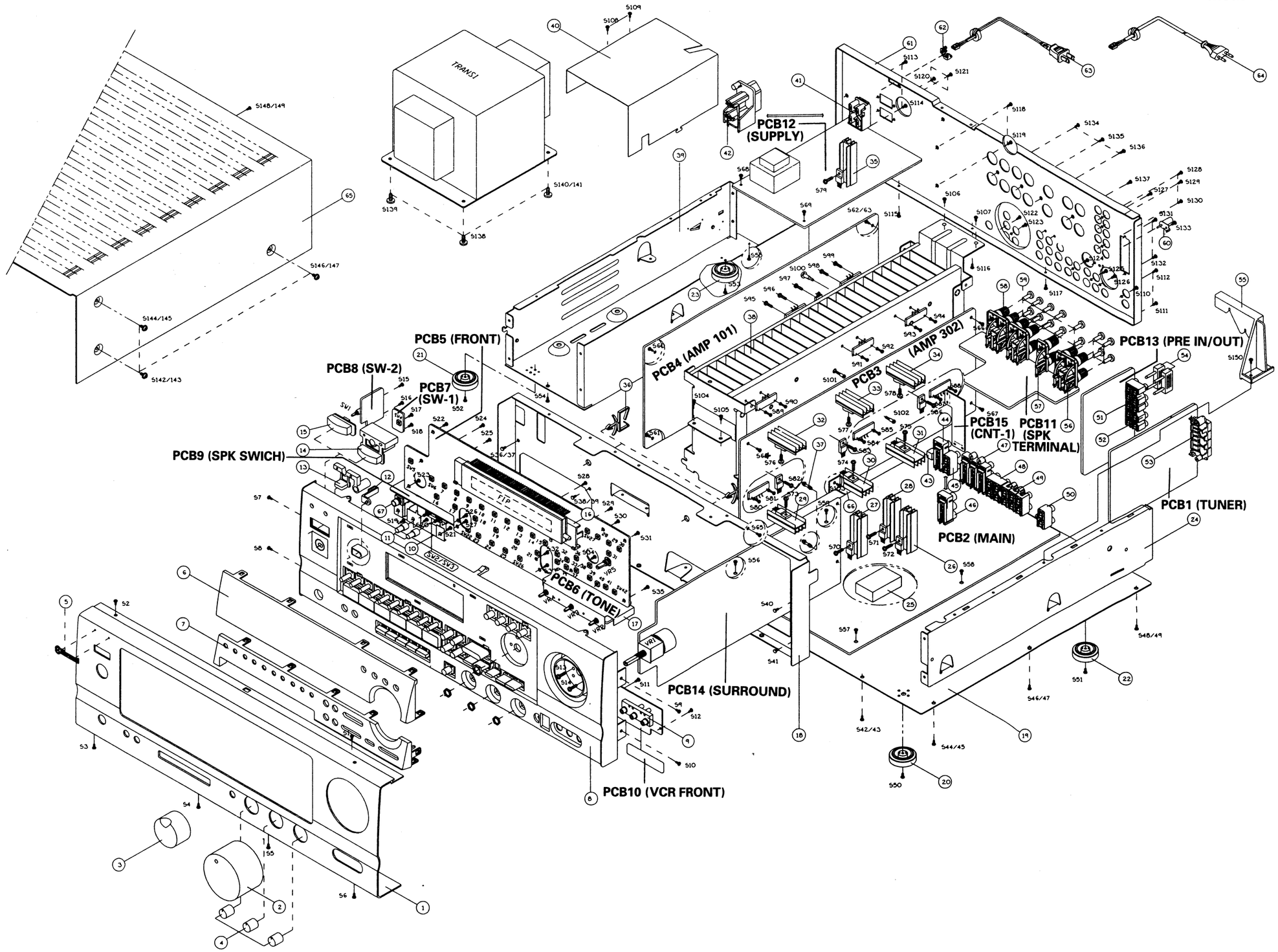
Ref. No	Description	Part No.	Q'ty
62	STOPPER CORD	438004016201	1
63	CORD AC POWER	L06104036103	1
64	CORD AC POWER	L06104042104	1
(64)	CORD AC POWER	L06104122001	1
65	COVER TOP	300004539601	1
66	BRACKET PCB	401005621601	1
67	JACK PHONE (G)	G40204016133	1
SW1	SWITCH POWER	G00004161000	1
SW2/SW3	SWITCH PUSH	G00004117000	2
SW4	SWITCH TACT	G18004050001	1
SW5-SW21	SWITCH TACT	G18004050001	17
SW22-SW26	SWITCH TACT	G18004050001	5
SW27	SWITCH TACT	G18004050001	1
SW28-SW42	SWITCH TACT	G18004050001	15
VR1	VOULME MAIN	C49514530001	1
VR2	VOULME BLANCE	C45004205000	1
VR3/VR4	VOULME BASS/TREBLE	C45004206000	2
VR5	VOULME ENCODER	C45004203001	1
	HARDWARE KIT		
S1/S2	SCREW #2FTC 3×8B	B010530083F1	2
S3-S55	SCREW #BTT 3×8B	BO20030083B1	53
S56-S69	SCREW #B WPTT 3×6Y	BO20030061W1	14
S70-S79	SCREW #2 BTT 3×8B	BO20030083B1	10
S80-S99	SCREW HEATSINK	150704114601	20
S100-S102	SCREW GUIDE(A)	150704145601	3
S103-S133	SCREW #B BTT 3×8B	BO20030083B1	31
S134-S137	SCREW GROUND	150704099601	4
S138-S141	SCREW WSAM 4×8B	B020940083W1	4
S142-S147	SCREW BSAM 4×8B	B020940083W1	8
S148-S150	SCREW #B BTT 3×8B	BO20030083B1	3
	MISCELLANEOUS		
	SPONGE RUBBER	405004509501	1
	CARD CABLE	L30118621359	1

PRODUCT SAFETY NOTICE

Each precaution in this manual should be followed during servicing. Components identified with the IEC symbol ⚠ in the parts list are of special significance to safety. When replacing a component identified with ⚠ , use only the replacement parts designated, or parts with the same ratings of resistance, wattage or voltage that are designated in the parts list in this manual. Leakage-current or resistance measurements must be made to determine that exposed parts are acceptably insulated from the supply circuit before returning the product to the customer.

EXPLODED VIEW

Model No. : R-525/RDS



ELECTRICAL PARTS LIST

Ref. No	Description				Part No.	Q'ty	Version
PCB1	**ASSEMBLY P.C.BOARD TUNER (NON RDS VERSION)**						
	CAPACITORS						
C1	CERAMIC TUBULAR	0.022 μF	25 V		D00522357453	1	
C2	CERAMIC DISC	0.047 μF	50 V	Z	D00447309706	1	
C3	ELECTROLYTIC SG	3.3 μF	50 V	M	D0403R308710	1	
C4	CERAMIC TUBULAR	0.01 μF	16 V		D00510377353	1	
C5	ELECTROLYTIC SG	47 μF	16 V	M	D04047008310	1	
C6	CERAMIC TUBULAR	0.022 μF	25 V		D00522357453	1	
C7	CERAMIC TUBULAR	0.01 μF	16 V		D00510377353	1	
C8	CERAMIC DISC CH	18 pF	50 V	B	D00018016707	1	
C9	CERAMIC DISC CH	18 pF	50 V	B	D00018016707	1	
C10	CERAMIC DISC	100 pF	50 V	J	D00410106706	1	
C11	ELECTROLYTIC SG	47 μF	16 V	M	D04047008310	1	
C12	CERAMIC DISC	0.022 μF	50 V	Z	D00422309706	1	
C13	CERAMIC TUBULAR	0.022 μF	25 V		D00522357453	1	
C14	ELECTROLYTIC SG	100 μF	16 V	M	D04010108310	1	
C15	POLY	470 pF	50 V	J	D02247106705	1	
C16	CERAMIC DISC CH	15 pF	50 V		D00015016707	1	
C17/C18	CERAMIC TUBULAR	0.022 μF	25 V		D00522357453	2	
C20	ELECTROLYTIC SG	10 μF	35 V	M	D04010008510	1	
C21/C22	CERAMIC TUBULAR	0.022 μF	25 V		D00522357453	2	
C23	CERAMIC TUBULAR	0.01 μF	16 V		D00510377353	1	
C24/C25	CERAMIC DISC	0.022 μF	50 V	Z	D00422309706	2	
C26	ELECTROLYTIC SG	0.47 μF	50 V	M	D040R4708710	1	
C27	ELECTROLYTIC SG	3.3 μF	50 V	M	D0403R308710	1	
C28	ELECTROLYTIC SG	4.7 μF	50 V	Z	D0404R708710	1	
C29	CERAMIC DISC	0.022 μF	50 V	Z	D00422309706	1	
C30	MYLAR	0.022 μF	100 V	J	D02022306C06	1	
C31	MYLAR	0.003 μF	100 V	J	D02033206C06	1	
C32	MYLAR	0.039 μF	100 V	J	D02039306C06	1	
C33	ELECTROLYTIC SG	1 μF	50 V	M	D04001008710	1	
C34	CERAMIC TUBULAR	0.022 μF	25 V		D00522357453	1	
C35	ELECTROLYTIC SG	100 μF	16 V	M	D04010108310	1	
C36	CERAMIC DISC	330 pF	50 V	J	D00433106706	1	
C39	ELECTROLYTIC SG	10 μF	35 V	M	D04010008510	1	
C41	ELECTROLYTIC SG	10 μF	35 V	M	D04010008510	1	
C42	CERAMIC TUBULAR	0.047 μF	50 V		D00547309753	1	
C43	CERAMIC DISC	680 pF	50 V	J	D00468106706	1	
C44	ELECTROLYTIC SG	100 μF	16 V	M	D04010108310	1	
C45	ELECTROLYTIC SG	1 μF	50 V	M	D04001008710	1	
C46	ELECTROLYTIC SG	0.22 μF	50 V	M	D040R2208710	1	
C47	ELECTROLYTIC SG	1 μF	50 V	M	D04001008710	1	
C48	CERAMIC DISC	0.022 μF	50 V	Z	D00422309706	1	
C49	ELECTROLYTIC SG	10 μF	35 V	M	D04010008510	1	
C50L/R	CERAMIC DISC	560 pF	50 V	J	D00456106706	2	
C51L/R	ELECTROLYTIC SG	10 μF	35 V	M	D04010008510	2	
C53	ELECTROLYTIC SG	10 μF	35 V	M	D04010008510	1	
C62L/R	CERAMIC DISC	68 pF	50 V	J	D00068006706	2	
	CERAMIC FILTERS						
CF1	10.7MS3GH				E43010700015	1	
CF3	10.7MS3GH				E43010700015	1	
CF4	CFM2-450BL				E43145000012	1	
	CONNECTOR						
	DIODES						
D1	ZENER, UZ 5.1V BSB				K06005R11452	1	
D2	1N4148, SWITCHING				K00041480152	1	
D5	1N4148, SWITCHING				K00041480152	1	
VD1/VD2	VARACTOR, SVC321 SPA-C				K08003210052	2	
	INTEGRATED CIRCUITS						
IC1	LM7001M				J12470010001	1	
IC2	LA1266G				J12412660000	1	
IC3	LA3401				J12434010000	1	
	TRANSISTORS						
Q1/Q2	2SC1740S, NPN				J5021740Y005	2	
Q3	KTC1923Y/BKTC3194Y, NPN				J5023194Y005	1	
Q4-Q6	KRA107M/DTA114YS, PNP				J601107M0005	3	
Q8L/R	DTC323TS, NPN				J602323TS005	2	
Q9	KRA107M/DTA114YS, PNP				J601107M0005	1	
	RESISTORS						
R1	CARBON FILM	100 kohm	1/5 W	J	C00001046P52	1	
R2	CARBON FILM	5.6 kohm	1/5 W	J	C00005626P52	1	
R3	CARBON FILM	22 kohm	1/5 W	J	C00002236P52	1	
R4	CARBON FILM	100 kohm	1/5 W	J	C00001046P52	1	
R5	METAL FILM	470 ohm	1/5 W	J	C06004716P52	1	
R6	CARBON FILM	100 kohm	1/5 W	J	C00001046P52	1	
R7	CARBON FILM	10 kohm	1/5 W	J	C00001036P52	1	
R8	METAL FILM	270 ohm	1/5 W	J	C06002716P52	1	
R9	METAL FILM	560 ohm	1/5 W	J	C06005616P52	1	
R10	METAL FILM	1 kohm	1/5 W	J	C06001026P52	1	
R11	METAL FILM	180 ohm	1/5 W	J	C06001816P52	1	
R12	METAL FILM	560 ohm	1/5 W	J	C06005616P52	1	
R13	METAL FILM	3.3 kohm	1/5 W	J	C06003326P52	1	
R14	METAL FILM	560 ohm	1/5 W	J	C06005616P52	1	
R15	METAL FILM	470 ohm	1/5 W	J	C06004716P52	1	
R16	METAL FILM	100 ohm	1/5 W	J	C06001016P52	1	
R17-R19	METAL FILM	1 kohm	1/5 W	J	C06001026P52	3	
R20	METAL FILM	330 ohm	1/5 W	J	C06003316P52	1	
R21	METAL FILM	270 ohm	1/5 W	J	C06002716P52	1	
R22	METAL FILM	470 ohm	1/5 W	J	C06004716P52	1	
R24	METAL FILM	4.7 kohm	1/5 W	J	C06004726P52	1	
R25	CARBON FILM	68 kohm	1/5 W	J	C00006836P52	1	
R26	CARBON FILM	18 kohm	1/5 W	J	C00001836P52	1	
R27	CARBON FILM	10 kohm	1/5 W	J	C00001036P52	1	
R28	CARBON FILM	22 kohm	1/5 W	J	C00002236P52	1	
R29	METAL FILM	22 ohm	1/5 W	J	C06002206P52	1	
R30	METAL FILM	4.7 kohm	1/5 W	J	C06004726P52	1	

Ref. No	Description				Part No.	Q'ty	Version
R31	CARBON FILM	10 kohm	1/5 W	J	C00001036P52	1	
R32	CARBON FILM	5.6 kohm	1/5 W	J	C00005626P52	1	
R33	METAL FILM	3.3 kohm	1/5 W	J	C06003326P52	1	
R34	METAL FILM	100 ohm	1/5 W	J	C06001016P52	1	
R39	METAL FILM	100 ohm	1/5 W	J	C06001016P52	1	
R40	CARBON FILM	47 kohm	1/5 W	J	C00004736P52	1	
R41	CARBON FILM	22 kohm	1/5 W	J	C00002236P52	1	
R42	METAL FILM	3.3 kohm	1/5 W	J	C06003326P52	1	
R43	CARBON FILM	22 kohm	1/5 W	J	C00002236P52	1	
R44	CARBON FILM	47 kohm	1/5 W	J	C00004736P52	1	
R46L/R	CARBON FILM	120 kohm	1/5 W	J	C00001246P52	2	
R47L/R	CARBON FILM	180 kohm	1/5 W	J	C00001846P52	2	
R48L/R	METAL FILM	2.7 kohm	1/5 W	J	C06002726P52	2	
R49L/R	METAL FILM	3.3 kohm	1/5 W	J	C06003326P52	2	
	COILS						
T1	AM-ANT				D30401000000	1	
T2	AM-OSC				D94001001000	1	
T3	AM-IFT				D95001005000	1	
T4	FM-DET-A				D97001004000	1	
T5	FM-DET-B				D97001006000	1	
T6L/R	MPX(19/38kHz)				E40101001000	2	
	SEMI FIXED VARIABLE RESISTORS						
VR1	5K(B)-H				C54150211500	1	
VR2	50K(B)-H				C54150311500	1	
VR3	200K(B)-H				C54120411500	1	
	MISCELLANEOUS						
CN100	PLUG, 10P				L12252419100	1	
TC1	CAPACITOR TREMMER, 10 pF				D11010090110	1	
X1	X-TAL, 7.2MHz				D E80072000009	1	
X2	CRYSTAL, CSB456F				E83045600005	1	
FE1	FM TUNER, FTA4-556HB				E90045560010	1	
PCB1	**ASSEMBLY P.C.BOARD TUNER (RDS VERSION)**						
	CAPACITORS						
C1	CERAMIC TUBULAR	0.022 μF	25 V		D00522357453	1	
C2	CERAMIC DISC	0.047 μF	50 V	Z	D00447309706	1	
C3	ELECTROLYTIC SG	3.3 μF	50 V	M	D0403R308710	1	
C4	CERAMIC TUBULAR	0.01 μF	16 V		D00510377353	1	
C5	ELECTROLYTIC SG	47 μF	16 V	M	D04047008310	1	
C6	CERAMIC TUBULAR	0.022 μF	25 V		D00522357453	1	
C7	CERAMIC TUBULAR	0.01 μF	16 V		D00510377353	1	
C8/C9	CERAMIC DISC CH	18 pF	50 V	B	D00018016707	2	
C10	CERAMIC DISC	100 pF	50 V	J	D00410106706	1	
C11	ELECTROLYTIC SG	47 μF	16 V	M	D04047008310	1	
C12	CERAMIC DISC	0.022 μF	50 V	Z	D00422309706	1	
C13	CERAMIC TUBULAR	0.022 μF	25 V		D00522357453	1	
C14	ELECTROLYTIC SG	100 μF	16 V	M	D04010108310	1	
C15	POLY	470 pF	50 V	J	D02247106705	1	
C16	CERAMIC DISC CH	15 pF	50 V		D00015016707	1	
C17/C18	CERAMIC TUBULAR	0.022 μF	25 V		D00522357453	2	
C20	ELECTROLYTIC SG	10 μF	35 V	M	D04010008510	1	
C21/C22	CERAMIC TUBULAR	0.022 μF	25 V		D00522357453	2	
C23	CERAMIC TUBULAR	0.01 μF	16 V		D00510377353	1	
C24/C25	CERAMIC DISC	0.022 μF	50 V	Z	D00422309706	2	
C26	ELECTROLYTIC SG	4.7 μF	50 V	M	D0404R708710	1	
C27	ELECTROLYTIC SG	3.3 μF	50 V	M	D0403R308710	1	
C28	ELECTROLYTIC SG	4.7 μF	50 V	Z	D0404R708710	1	
C29	CERAMIC DISC	0.022 μF	50 V	Z	D00422309706	1	
C30	MYLAR	0.022 μF	100 V	J	D02022306C06	1	
C31	MYLAR	0.003 μF	100 V	J	D02033206C06	1	
C32	MYLAR	0.039 μF	100 V	J	D02039306C06	1	
C33	ELECTROLYTIC SG	1 μF	50 V	M	D04001008710	1	
C34	CERAMIC TUBULAR	0.022 μF	25 V		D00522357453	1	
C35	ELECTROLYTIC SG	100 μF	16 V	M	D04010108310	1	
C36	CERAMIC DISC	330 pF	50 V	J	D00433106706	1	
C37C	CERAMIC DISC	82 pF	50 V	J	D00082006706	1	
C38C	CERAMIC DISC	100 pF	50 V	J	D00410106706	1	
C39	ELECTROLYTIC SG	10 μF	35 V	M	D04010008510	1	
C40D	CERAMIC TUBULAR	0.022 μF	25 V		D00522357453	1	
C41	ELECTROLYTIC SG	4.7 μF	35 V	M	D04010008510	1	
C42	CERAMIC TUBULAR	0.047 μF	50 V		D00547309753	1	
C43	CERAMIC DISC	680 pF	50 V	J	D00468106706	1	
C44	ELECTROLYTIC SG	100 μF	16 V	M	D04010108310	1	
C45	ELECTROLYTIC SG	1 μF	50 V	M	D04001008710	1	
C46	ELECTROLYTIC SG	0.22 μF	50 V	M	D040R2208710	1	
C47	ELECTROLYTIC SG	1 μF	50 V	M	D04001008710	1	
C48	CERAMIC DISC	0.022 μF	50 V	Z	D00422309706	1	
C49	ELECTROLYTIC SG	10 μF	35 V	M	D04010008510	1	
C50L/R	CERAMIC DISC	220 pF	50 V	J	D00422106706	2	
C51L/R	ELECTROLYTIC SG	10 μF	35 V	M	D04010008510	2	
C53	ELECTROLYTIC SG	10 μF	35 V	M	D04010008510	1	
C54D	CERAMIC TUBULAR	270 pF	50 V		D00527107753	1	
C55D	ELECTROLYTIC SG	47 μF	16 V	M	D04047008310	1	
C56D	ELECTROLYTIC SG	10 μF	35 V	M	D04010008510	1	
C57D	CERAMIC TUBULAR	0.1 μF	50 V		D00510409753	1	
C58D/C59D	CERAMIC DISC	27 pF	50 V	J	D00427006706	1	
C60D	CERAMIC DISC	0.1 μF	50 V	Z	D00410409706	1	
C62L/R	CERAMIC DISC	68 pF	50 V	J	D00068006706	2	
	CONNECTOR						
CN100	PLUG, 15P				L11252419190	1	
	CERAMIC FILTERS						
CF1	10.7MS3GH				E43010700015	1	
CF3	10.7MS3GH				E43010700015	1	
CF4	CFM2-450BL				E43145000012	1	
	DIODES						
D1	ZENER, UZ 5.1V BSB				K06005R11452	1	

Ref. No	Description				Part No.	Q'ty	Version
D2	1N4148, SWITCHING				K00041480152	1	
D3	ZENER, UZ 5.1V BSB				K06005R11452	1	
D4/D5	1N4148, SWITCHING				K00041480152	2	
VD1/VD2	VARACTOR, SVC321 SPA-C				K08003210052	2	
	INTEGRATED CIRCUITS						
IC1	LM7001M				J12470010001	1	
IC2	LA1266G				J12412660000	1	
IC3	LA3401				J12434010000	1	
IC4	TDA7330BD				J02073300001	1	
IC5	LC7073M				J12470730001	1	
	TRANSISTORS						
Q1/Q2	2SC1740S, NPN				J5021740Y005	2	
Q3	KTC1923Y/BKTC3194Y, NPN				J5023194Y005	1	
Q4-Q6	KRA107M/DTA114YS, PNP				J601107M0005	3	
Q8L/R	DTC323TS, NPN				J602323TS005	2	
Q9	KRA107M/DTA114YS, PNP				J601107M0005	1	
	RESISTORS						
R1	CARBON FILM	100 kohm	1/5 W	J	C00001046P52	1	
R2	CARBON FILM	5.6 kohm	1/5 W	J	C00005626P52	1	
R3	CARBON FILM	22 kohm	1/5 W	J	C00002236P52	1	
R4	CARBON FILM	100 kohm	1/5 W	J	C00001046P52	1	
R5	METAL FILM	470 ohm	1/5 W	J	C06004716P52	1	
R6	CARBON FILM	100 kohm	1/5 W	J	C00001046P52	1	
R7	CARBON FILM	10 kohm	1/5 W	J	C00001036P52	1	
R8	METAL FILM	270 ohm	1/5 W	J	C06002716P52	1	
R9	METAL FILM	560 ohm	1/5 W	J	C06005616P52	1	
R10	METAL FILM	1 kohm	1/5 W	J	C06001026P52	1	
R11	METAL FILM	180 ohm	1/5 W	J	C06001816P52	1	
R12	METAL FILM	560 ohm	1/5 W	J	C06005616P52	1	
R13	METAL FILM	3.3 kohm	1/5 W	J	C06003326P52	1	
R14	METAL FILM	560 ohm	1/5 W	J	C06005616P52	1	
R15	METAL FILM	470 ohm	1/5 W	J	C06004716P52	1	
R16	METAL FILM	100 ohm	1/5 W	J	C06001016P52	1	
R17-R19	METAL FILM	1 kohm	1/5 W	J	C06001026P52	3	
R20	METAL FILM	330 ohm	1/5 W	J	C06003316P52	1	
R21	METAL FILM	270 ohm	1/5 W	J	C06002716P52	1	
R22	METAL FILM	470 ohm	1/5 W	J	C06004716P52	1	
R24	METAL FILM	4.7 kohm	1/5 W	J	C06004726P52	1	
R25	CARBON FILM	68 kohm	1/5 W	J	C00006836P52	1	
R26	CARBON FILM	18 kohm	1/5 W	J	C00001836P52	1	
R27	CARBON FILM	10 kohm	1/5 W	J	C00001036P52	1	
R28	CARBON FILM	22 kohm	1/5 W	J	C00002236P52	1	
R29	METAL FILM	22 ohm	1/5 W	J	C06002206P52	1	
R30	METAL FILM	4.7 kohm	1/5 W	J	C06004726P52	1	
R31	CARBON FILM	10 kohm	1/5 W	J	C00001036P52	1	
R32	CARBON FILM	5.6 kohm	1/5 W	J	C00005626P52	1	
R33	METAL FILM	3.3 kohm	1/5 W	J	C06003326P52	1	
R34	METAL FILM	100 ohm	1/5 W	J	C06001016P52	1	
R39	METAL FILM	100 ohm	1/5 W	J	C06001016P52	1	
R40	CARBON FILM	47 kohm	1/5 W	J	C00004736P52	1	
R41	CARBON FILM	22 kohm	1/5 W	J	C00002236P52	1	
R42	METAL FILM	3.3 kohm	1/5 W	J	C06003326P52	1	
R43	CARBON FILM	22 kohm	1/5 W	J	C00002236P52	1	
R44	CARBON FILM	47 kohm	1/5 W	J	C00004736P52	1	
R46L/R	CARBON FILM	120 kohm	1/5 W	J	C00001246P52	2	
R47L/R	CARBON FILM	180 kohm	1/5 W	J	C00001846P52	2	
R48L/R	METAL FILM	2.7 kohm	1/5 W	J	C06002726P52	2	
R49L/R	METAL FILM	3.3 kohm	1/5 W	J	C06003326P52	2	
	COILS						
T1	AM-ANT				D30401000000	1	
T2	AM-OSC				D94001001000	1	
T3	AM-IFT				D95001005000	1	
T4	FM-DET-A				D97001004000	1	
T5	FM-DET-B				D97001006000	1	
T6L/R	MPX(19/38kHz)				E40101001000	2	
	SEMI FIXED VARIABLE RESISTORS						
VR1	5K(B)-H				C54150211500	1	
VR2	50K(B)-H				C54150311500	1	
VR3	200K(B)-H				C54120411500	1	
	MISCELLANEOUS						
TC1	CAPACITOR TREMMER, 10 pF				D11010090110	1	
X1	X-TAL, 7.2MHz				E80072000009	1	
X2	CSB456F				E83045600005	1	
FE1	FM TUNER, FTH4-460H				E90044600011	1	
PCB2	**ASSEMBLY P.C.BOARD MAIN**						
	CAPACITORS						
C101L/R	CERAMIC TUBULAR	100 pF	50 V	J	D00110107753	2	D/RDS(Only)
C102L/R	CERAMIC TUBULAR	100 pF	50 V	J	D00110107753	2	
C103L/R	ELECTROLYTIC SG	4.7 μF	50 V	M	D0404R708710	2	
C104L/R	CERAMIC TUBULAR	0.002 μF	25 V		D00522357453	2	D/RDS(Only)
C105L/R	ELECTROLYTIC SG	33 μF	25 V	M	D04033008410	2	
C106L/R	MYLAR	0.006 μF	100 V	J	D02056206C06	2	
C107L/R	MYLAR	0.002 μF	100 V	J	D02018206C06	2	
C108L/R	ELECTROLYTIC SG	1 μF	50 V	M	D04001008710	2	
C109L/R	MYLAR	0.002 μF	100 V	J	D02018206C06	2	
C110/C111	ELECTROLYTIC SG	47 μF	25 V	M	D04047008410	2	
C113L/R	CERAMIC TUBULAR	100 pF	50 V		D00110107753	2	D/RDS(Only)
C132L/R	CERAMIC TUBULAR	100 pF	50 V		D00110107753	2	D/RDS(Only)
C134	MYLAR	0.1 μF	250 V		D02010407H08	1	
C135-C138	CERAMIC TUBULAR	100 pF	50 V		D00110107753	4	
C138L/R	CERAMIC TUBULAR	100 pF	50 V		D00110107753	2	
C139/C140	CERAMIC TUBULAR	100 pF	50 V		D00110107753	2	
C141	ELECTROLYTIC SG	1 μF	50 V	M	D04001008710	1	
C142	CERAMIC TUBULAR	0.01 μF	16 V		D00510377353	1	

Ref. No	Description				Part No.	Q'ty	Version
C143/C144	ELECTROLYTIC SG	47 μF	25 V	M	D04047008410	2	
C146	ELECTROLYTIC SG	470 μF	10 V		D04047108210	1	
C147	CERAMIC TUBULAR	0.1 μF	50 V		D00510307753	1	
C148L/R	ELECTROLYTIC SG	10 μF	50 V	M	D04010008710	2	
C149	ELECTROLYTIC SG	10 μF	50 V	M	D04010008710	1	
C151	ELECTROLYTIC SG	33 μF	25 V	M	D04033008410	1	
C152	ELECTROLYTIC SG	470 μF	10 V		D04047108210	1	
C154	ELECTROLYTIC SG	33 μF	25 V	M	D04033008410	1	
C155	ELECTROLYTIC SG	470 μF	10 V		D04047108210	1	
C156	ELECTROLYTIC SG	33 μF	25 V	M	D04033008410	1	
C159	ELECTROLYTIC SG	100 μF	16 V	M	D04010108310	1	
C160/C161	CERAMIC TUBULAR	0.1 μF	50 V	K	D00510307753	2	
C162	ELECTROLYTIC SG	1 μF	50 V	M	D04001008710	1	
C165	CERAMIC TUBULAR	0.1 μF	50 V	K	D00510307753	1	
C166	ELECTROLYTIC SG	1 μF	50 V	M	D04001008710	1	
C167	ELECTROLYTIC SG	1000 μF	35 V	M	D04010208520	1	
C168	ELECTROLYTIC SG	1000 μF	35 V	M	D04010208520	1	
C169-C171	MYLAR	0.047 μF	100 V	J	D02047306C06	3	
C172/C173	ELECTROLYTIC SG	12000 μF	63 V		D04012308836	2	
C174-C183	MYLAR	0.1 μF	250 V	K	D02010407H08	10	
C184L/R	ELECTROLYTIC SG	4.7 μF	50 V	M	D0404R708710	2	
C185L/R	ELECTROLYTIC SG	4.7 μF	50 V	M	D0404R708710	2	
C186/C187	ELECTROLYTIC SG	47 μF	25 V	M	D04047008410	2	
C501/C502	ELECTROLYTIC SG	47 μF	16 V	M	D04047008310	2	
C503/C504	CERAMIC TUBULAR	47 pF	50 V		D00147006753	2	
C505	ELECTROLYTIC SG	4.7 μF	50 V		D0404R708710	1	
C506/C507	ELECTROLYTIC SG	47 μF	25 V	M	D04047008410	2	
C508	ELECTROLYTIC SG	4.7 μF	50 V		D0404R708710	1	
C509-C511	CERAMIC TUBULAR	100 pF	50 V		D00110107753	3	
C512/C513	ELECTROLYTIC SG	47 μF	25 V	M	D04047008410	2	
C514	ELECTROLYTIC SG	4.7 μF	50 V		D0404R708710	1	
C515/C516	ELECTROLYTIC SG	47 μF	25 V	M	D04047008410	2	
C518	ELECTROLYTIC SG	4.7 μF	50 V		D0404R708710	1	
C519/C520	CERAMIC TUBULAR	0.001 μF	50 V		D00510207753	2	
	CONNECTORS						
CP100	PULG, 15P				L10253291190	1	
CP102	PULG, 8P				L10150760080	1	
CP301	PULG, 21P				L13121000000	1	
CP403	PULG, 3P				L10252670030	1	
CP404/CP405	PULG, 2P				L10820200022	2	
CP752	PULG, 5P				L10122005000	1	
CN103	LEAD ASSY, 6P, 260mm				L03206207732	1	
CN202	LEAD ASSY, 4P, 160mm				L02204163432	1	
CN211	LEAD ASSY, 3P, 300mm				L10150760080	1	
CN212	PULG, 8P				L02003304166	1	
CN214	LEAD ASSY, 4P, 200mm				L03104203631	1	
	DIODES						
D101/D102	SWITCHING, 1N4148				K00041480152	2	
D105-D112	RECTIFIER, 6A03				K04006030000	8	
D113-D116	RECTIFIER, 1N4003				K04040030052	4	
	FUSES						
F101/F102	NB1A, 125V				G65010212116	2	A(Only)
F101/F102	T1A, 250V				G65010225116	2	D/RDS(Only)
	INTEGRATED CIRCUITS						
IC101	KIA4559				J12145590000	1	
IC102/IC103	LC7821				J08078210000	2	
IC104	BA7625				J17176250000	1	
IC106	MC14094BCP				J04014094000	1	
IC107	KIA4559				J12145590000	1	
IC108	KA7806				J12678060012	1	
IC109	KA7815				J12678150002	1	
IC110	KA7915				J12679150002	1	
IC111	LTV817				K81481700000	1	A(Only)
IC501	KIA4559				J12145590000	1	
IC502	TC9299				J08492990000	1	
IC503	KIA4559				J12145590000	1	
	COILS						
L101L/R	INDUCTOR, 47 uH				D33047000102	2	D/RDS(Only)
	TRANSISTORS						
Q101/Q102	BKTA1267Y, PNP				J5001267Y005	2	
	RESISTORS						
R101L/R	METAL FILM	1 kohm	1/5 W	J	C06001026P52	2	
R102L/R	CARBON FILM	91 kohm	1/5 W	J	C00009136P52	2	
R103L/R	CARBON FILM	91 kohm	1/5 W	J	C00009136P52	2	
R104L/R	METAL FILM	680 ohm	1/5 W	J	C06006816P52	2	
R105L/R	CARBON FILM	43 kohm	1/5 W	J	C00004336P52	2	
R106L/R	CARBON FILM	560 kohm	1/5 W	J	C00005646P52	2	
R107L/R	METAL FILM	560 ohm	1/5 W	J	C06005616P52	2	
R108L/R	CARBON FILM	100 kohm	1/5 W	J	C00001046P52	2	
R109/R110	METAL FILM	220 ohm	1/5 W	J	C06002216P52	2	
R111L/R	METAL FILM	470 ohm	1/5 W	J	C06004716P52	2	
R112L/R	METAL FILM	470 ohm	1/5 W	J	C06004716P52	2	
R113L/R	METAL FILM	470 ohm	1/5 W	J	C06004716P52	2	
R114L/R	METAL FILM	470 ohm	1/5 W	J	C06004716P52	2	
R115L/R	METAL FILM	1 kohm	1/5 W	J	C06001026P52	2	
R116L/R	METAL FILM	470 ohm	1/5 W	J	C06004716P52	2	
R117L/R	METAL FILM	470 ohm	1/5 W	J	C06004716P52	2	
R118L/R	METAL FILM	470 ohm	1/5 W	J	C06004716P52	2	
R119L/R	METAL FILM	470 ohm	1/5 W	J	C06004716P52	2	
R120L/R	METAL FILM	470 ohm	1/5 W	J	C06004716P52	2	
R122-R127	METAL FILM	1 kohm	1/5 W	J	C06001026P52	6	
R128	CARBON FILM	100 kohm	1/5 W	J	C00001046P52	1	
R129/R130	METAL FILM	220 ohm	1/5 W	J	C06002216P52	2	
R131	METAL FILM	470 ohm	1/5 W	J	C06004716P52	2	
R133	METAL FILM	3.3 ohm	1/5 W	J	C0603R306P5	1	

Ref. No	Description					Part No.	Q'ty	Version
R138/R139	METAL FILM	75	ohm	1/5 W	J	C06007506P52	2	
R141-R143	METAL FILM	75	ohm	1/5 W	J	C06007506P52	3	
R144-R146	METAL FILM	100	ohm	1/5 W	J	C06001016P52	3	
R148	METAL FILM	100	ohm	1/5 W	J	C06001016P52	1	
R154	METAL FILM	10	ohm	2 W	J	C06001006652	1	
R155	METAL FILM	4.7	kohm	2 W	J	C0604R706652	1	
R156	METAL FILM	10	ohm	2 W	J	C06001006652	1	
R157	METAL FILM	470	ohm	1/5 W	J	C06004716P52	1	A(Only)
R158L/R	CARBON FILM	100	kohm	1/5 W	J	C00001046P52	2	
R159L/R	CARBON FILM	100	kohm	1/5 W	J	C00001046P52	2	
R160/R161	METAL FILM	220	ohm	1/5 W	J	C06002216P52	2	
R186	METAL FILM	4.7	kohm	1/5 W	J	C06004726P52	1	
R501	CARBON FILM	100	kohm	1/5 W	J	C00001046P52	1	
R502	METAL FILM	1	kohm	1/5 W	J	C06001026P52	1	
R503	METAL FILM	1.2	kohm	1/5 W	J	C06001226P52	1	
R504	CARBON FILM	100	kohm	1/5 W	J	C00001046P52	1	
R505	METAL FILM	1	kohm	1/5 W	J	C06001026P52	1	
R506	METAL FILM	1.2	kohm	1/5 W	J	C06001226P52	1	
R507/R508	METAL FILM	220	ohm	1/5 W	J	C06002216P52	2	
R509/R510	CARBON FILM	100	kohm	1/5 W	J	C00001046P52	2	
R511-R515	METAL FILM	1	kohm	1/5 W	J	C06001026P52	5	
R516	CARBON FILM	47	kohm	1/5 W	J	C00004736P52	1	
R517/R518	METAL FILM	220	ohm	1/5 W	J	C06002216P52	2	
R519	CARBON FILM	100	kohm	1/5 W	J	C00001046P52	1	
R522/R523	METAL FILM	220	ohm	1/5 W	J	C06002216P52	2	
R524	METAL FILM	1	kohm	1/5 W	J	C06001026P52	1	
R525	CARBON FILM	100	kohm	1/5 W	J	C00001046P52	1	

PCB3 ASSEMBLY P.C.BOARD AMP302

CAPACITORS

C201C/L/R	ELECTROLYTIC SG	47	µF	16 V	M	D04047008310	3
C202C/L/R	CERAMIC TUBULAR	68	pF	50 V		D00168006753	3
C203C/L/R	ELECTROLYTIC SG	100	µF	10 V		D04010108210	3
C204C/L/R	ELECTROLYTIC SA	470	µF	6.3 V	M	D04047108110	3
C205C/L/R	ELECTROLYTIC SG	10	µF	50 V	M	D04010008710	3
C206C/L/R	CERAMIC TUBULAR	47	pF	50 V		D00147006753	3
C207C/L/R	ELECTROLYTIC SG	4.7	µF	50 V	M	D0404R708710	3
C208C/L/R	CERAMIC TUBULAR	15	pF	50 V		D00115006753	3
C209C/L/R	ELECTROLYTIC SM	47	µF	100 V		D04047008C13	3
C210C/L/R	ELECTROLYTIC SM	47	µF	100 V		D04047008C13	3
C211C/L/R	ELECTROLYTIC SG	22	µF	35 V	M	D04022008510	3
C212L/R	MYLAR	0.047	µF	100 V	J	D02047306C06	2
C213	ELECTROLYTIC SA	470	µF	6.3 V	M	D04047108110	1
C214C/L/R	CERAMIC TUBULAR	470	pF	50 V		D00547107753	3
C215/C216	ELECTROLYTIC SG	1	µF	50 V	M	D04001008710	2
C223C/L/R	ELECTROLYTIC SG	22	µF	16 V	M	D04022008310	3

CONNECTORS

CP201	PLUG, 9P	L10122009000	1
CP202	PLUG, 4P	L10122004000	1
CP204	PLUG, 3P	L10252870030	1
CP205	PLUG, 3P	L10420200030	1
CP408	PLUG, 2P	L10122002000	2
CP206	PLUG, ST 10-5076-108	L02203263432	1
CP410	PLUG, 2P	L10150760080	1 D/RDS(Only)
CN203	LEAD ASS'Y, 3P, 260mm	L10252670020	2
CN411	LEAD ASS'Y, 3P, 120mm	L02203123632	1

DIODES

D201C/L/R	SWITCHING, 1N4148	K00041480152	3
D202C/L/R	SWITCHING, 1N4148	K00041480152	3
D203	ZENER, UZ 9.1V BSC	K06009R12452	1
D204	SWITCHING, 1N4148	K00041480152	1
D205	SWITCHING, 1N4148	K00041480152	1 D/RDS(Only)

COILS

L201L/R	INDUCTOR, 0.5uH	D33090000132	2

TRANSISTORS

Q201	DTC114YS, NPN	J60201140005	1
Q203C/L/R	KTA1268/KTA970, PNP	J5001268B005	3
Q204C/L/R	KTA1268/KTA970, PNP	J5001268B005	3
Q205C/L/R	KTA1268/KTA970, PNP	J5001268B005	3
Q206C/L/R	BKTA1267Y, PNP	J5001267Y005	3
Q207C/L/R	KTC3200/KTC2240BL, NPN	J5023200B005	3
Q208C/L/R	KTC3200/KTC2240BL, NPN	J5023200B005	3
Q209C/L/R	KTA1268/KTA970, PNP	J5001268B005	3
Q210C/L/R	2SC3423	J5023423O000	3
Q211C/L/R	2SA1360	J5001360O000	3
Q212C/L/R	2SC4137, NPN	J5024137Q000	3
Q213C/L/R	2SC4883A-Y	J5024883Y000	3
Q214C/L/R	2SA1859A-Y	J5001859Y000	3
Q215C/L/R	2SC2921	J5022921Y000	3
Q216C/L/R	2SA1215	J5001215Y000	3
Q217C/L/R	2SC1740S, NPN	J5021740Y005	3
Q218	BKTA1267Y, PNP	J5001267Y005	1
Q219	2SC1740S, NPN	J5021740Y005	1
Q220	2SC1740S, NPN	J5021740Y005	1

RESISTORS

R201C/L/R	METAL FILM	1	kohm	1/5 W	J	C06001026P52	3
R203C/L/R	CARBON FILM	33	kohm	1/5 W	J	C00003336P52	3
R204C/L/R	CARBON FILM	10	kohm	1/5 W	J	C00001036P52	3
R205C/L/R	METAL FILM	270	ohm	1/5 W	J	C06002716P52	3
R206C/L/R	METAL FILM	390	ohm	1/5 W	J	C06003916P52	3
R207C/L/R	METAL FILM	390	ohm	1/5 W	J	C06003916P52	3
R208C/L/R	METAL FILM	1.5	kohm	1/5 W	J	C06001526P52	3
R209C/L/R	METAL FILM	1.5	kohm	1/5 W	J	C06001526P52	3
R210C/L/R	METAL FILM	560	ohm	1/5 W	J	C06005616P52	3
R211C/L/R	METAL FILM	560	ohm	1/5 W	J	C06005616P52	3
R212C/L/R	METAL FILM	560	ohm	1/5 W	J	C06005616P52	3
R213C/L/R	METAL FILM	560	ohm	1/5 W	J	C06005616P52	3
R214C/L/R	METAL FILM	560	ohm	1/5 W	J	C06005616P52	3
R215C/L/R	METAL FILM	4.7	kohm	1/5 W	J	C06004726P52	3
R216C/L/R	METAL FILM	560	ohm	1/5 W	J	C06005616P52	3
R217C/L/R	METAL FILM	82	ohm	1/5 W	J	C06008206P52	3
R218C/L/R	METAL FILM	82	ohm	1/5 W	J	C06008206P52	3
R219C/L/R	METAL FILM	1.2	kohm	1/5 W	J	C06001226P52	3
R220C/L/R	METAL FILM	910	ohm	1/5 W	J	C06009116P52	3
R221C/L/R	METAL FILM	1	kohm	1/5 W	J	C06001026P52	3
R222C/L/R	CARBON FILM	22	kohm	1/5 W	J	C00002236P52	3
R223C/L/R	CARBON FILM	22	kohm	1/5 W	J	C00002236P52	3
R224C/L/R	METAL FILM	82	ohm	1/5 W	J	C06008206P52	3
R227C/L/R	CEMENT (Dual)	0.27	ohm	5 W	J	C141R2707930	3
R228C/L/R	METAL FILM	2.2	kohm	1/5 W	J	C06002226P52	3
R229C/L/R	METAL FILM	2.2	kohm	1/5 W	J	C06002226P52	3
R230C/L/R	METAL FILM	1	kohm	1/5 W	J	C06001026P52	3
R231C/L/R	CARBON FILM	6.8	kohm	1/5 W	J	C00006826P52	3
R232	CARBON FILM	68	kohm	1/5 W	J	C00006836P52	1
R233	CARBON FILM	100	kohm	1/5 W	J	C00001046P52	1
R234	METAL FILM	3.3	kohm	1/5 W	J	C06003326P52	1
R235L/R	METAL FILM	10	ohm	1 W	J	C06001006552	2
R237L/R	METAL FILM	10	ohm	1 W	J	C06001006552	2
R238C/L/R	CARBON FILM	22	kohm	1/5 W	J	C00002236P52	3
R239	METAL FILM	1.5	kohm	1/5 W	J	C06001526P52	1
R240	METAL FILM	1	kohm	1/5 W	J	C06001026P52	1
R241	METAL FILM	10	kohm	1/5 W	J	C00001036P52	1
R242	METAL FILM	7.5	kohm	1/5 W	J	C00007526P52	1 D/RDS(Only)
R243	CARBON FILM	150	kohm	1/5 W	J	C00001546P52	1
R244C/L/R	CARBON FILM	33	kohm	1/5 W	J	C00003336P52	3
R245C	METAL FILM	2.2	kohm	1/5 W	J	C06002226P52	3
R245L/R	METAL FILM	1.5	kohm	1/5 W	J	C06001526P52	2
R246C	METAL FILM	1	kohm	1/5 W	J	C06001026P52	3
R247C/L/R	METAL FILM	47	ohm	1 W	J	C06004706552	3
R249C/L/R	METAL FILM	47	ohm	1 W	J	C06004706552	3
R251C/L/R	CARBON FILM	33	kohm	1/5 W	J	C00003336P52	3

PCB4 ASSEMBLY P.C.BOARD AMP101

CAPACITORS

C201SL	ELECTROLYTIC SG	47	µF	16 V	M	D04047008310	1
C202SL	CERAMIC TUBULAR	68	pF	50 V		D00168006753	1
C203SL	ELECTROLYTIC SG	100	µF	10 V		D04010108210	1
C204SL	ELECTROLYTIC SG	47	µF	25 V	M	D04047008410	1
C205SL	ELECTROLYTIC SG	10	µF	50 V	M	D04010008710	1
C208SL	CERAMIC TUBULAR	3.3	pF	50 V		D0013R307753	1
C209SL	ELECTROLYTIC SM	47	µF	100 V		D04047008C13	1
C210SL	ELECTROLYTIC SM	47	µF	100 V		D04047008C13	1
C211SL	ELECTROLYTIC SG	10	µF	50 V	M	D04010008710	1
C212SL	CERAMIC TUBULAR	47	pF	50 V		D00147006753	1
C213SL	CERAMIC TUBULAR	10	pF	50 V		D00110006753	1
C214SL	CERAMIC TUBULAR	470	pF	50 V		D00547107753	1
C223SL	ELECTROLYTIC SG	22	µF	16 V	M	D04022008310	1

CONNECTORS

CP203	PULG, 3P	L10122003000	1
CP207	PULG, 7P	L10420200070	1
CP208	PULG, 8P	L10420200080	1
CP209	PULG, 2P	L10122002001	1
CP211	PULG, 3P	L10122003000	1

DIODES

D201SL	1N4148, SWITCHING	K00041480152	1
D202SL	1N4148, SWITCHING	K00041480152	1
L201SL	INDUCTOR, 0.5 uH	D33090000132	1

TRANSISTORS

Q203SL	KTA1268/KTA970, PNP	J5001268B005	1
Q204SL	KTA1268/KTA970, PNP	J5001268B005	1
Q205SL	KTA1268/KTA970, PNP	J5001268B005	1
Q206SL	BKTA1267Y, PNP	J5001267Y005	1
Q207SL	KTC3200/KTC2240BL, NPN	J5023200B005	1
Q208SL	KTC3200/KTC2240BL, NPN	J5023200B005	1
Q210SL	2SC3423	J5023423O000	1
Q211SL	2SA1360	J5001360O000	1
Q215SL	2SD2401	J58324019000	1
Q216SL	2SB1570	J5811570P000	1
Q217SL	2SC1740S, NPN	J5021740Y005	1

RESISTORS

R203SL	CARBON FILM	33	kohm	1/5 W	J	C00003336P52	1
R204SL	CARBON FILM	10	kohm	1/5 W	J	C00001036P52	1
R205SL	METAL FILM	270	ohm	1/5 W	J	C06002716P52	1
R206SL	METAL FILM	390	ohm	1/5 W	J	C06003916P52	1
R207SL	METAL FILM	390	ohm	1/5 W	J	C06003916P52	1
R208SL	METAL FILM	1.5	kohm	1/5 W	J	C06001526P52	1
R209SL	METAL FILM	1.5	kohm	1/5 W	J	C06001526P52	1
R210SL	METAL FILM	560	ohm	1/5 W	J	C06005616P52	1
R211SL	METAL FILM	560	ohm	1/5 W	J	C06005616P52	1
R212SL	METAL FILM	560	ohm	1/5 W	J	C06005616P52	1
R213SL	METAL FILM	560	ohm	1/5 W	J	C06005616P52	1
R214SL	METAL FILM	560	ohm	1/5 W	J	C06005616P52	1
R217SL	METAL FILM	82	ohm	1/5 W	J	C06008206P52	1
R218SL	METAL FILM	82	ohm	1/5 W	J	C06008206P52	1
R219SL	METAL FILM	1.2	kohm	1/5 W	J	C06001226P52	1
R220SL	METAL FILM	470	ohm	1/5 W	J	C06004716P52	1
R222SL	CARBON FILM	22	kohm	1/5 W	J	C00002236P52	1
R223SL	CARBON FILM	22	kohm	1/5 W	J	C00002236P52	1
R227SL	CEMENT (Dual)	0.27	ohm	5 W	J	C141R2707930	1
R228SL	METAL FILM	1.8	kohm	1/5 W	J	C06001826P52	1
R229SL	METAL FILM	1.5	kohm	1/5 W	J	C06001526P52	1
R230SL	METAL FILM	910	ohm	1/5 W	J	C06009116P52	1
R231SL	CARBON FILM	6.8	kohm	1/5 W	J	C00006826P52	1
R235SL	METAL FILM	10	ohm	1 W	J	C06001006552	1
R238SL	CARBON FILM	22	kohm	1/5 W	J	C00002236P52	1
R244SL	CARBON FILM	33	kohm	1/5 W	J	C00003336P52	1
R245SL	METAL FILM	2.2	kohm	1/5 W	J	C06002226P52	1
R246SL	METAL FILM	1	kohm	1/5 W	J	C06001026P52	1
R247SL	METAL FILM	47	ohm	1 W	J	C06004706552	1
R249SL	METAL FILM	47	ohm	1 W	J	C06004706552	1
R251SL	CARBON FILM	33	kohm	1/5 W	J	C00003336P52	1

PCB5 ASSEMBLY P.C.BOARD FRONT

CAPACITORS

C301-C310	CERAMIC TUBULAR	100	pF	50 V		D00110107753	10
C311/C312	MYLAR	0.047	µF	100 V	J	D02047306C06	2
C313	ELECTROLYTIC SG	0.1	µF	50 V		D040R1008710	1
C316/C317	CERAMIC TUBULAR	100	pF	50 V		D00110107753	2
C318/C319	CERAMIC TUBULAR	820	pF	50 V		D00582107753	2
C320/C321	ELECTROLYTIC SG	47	µF	16 V	M	D04047008310	2
C322	ELECTROLYTIC SG	0.047	µF	5.5 V		D09047370220	1
C323	ELECTROLYTIC SG	10	µF	50 V		D04010008710	1
C324	ELECTROLYTIC SG	47	µF	50 V		D04047008710	1
C325	ELECTROLYTIC SG	10	µF	35 V	M	D04010008510	1

CONNECTORS

CN301	PLUG, 52575-2130	L13152575210	1
CN302	LEAD ASS'Y, 8P, 350mm	L02208353432	1
CN303	LEAD ASS'Y, 12P, 200mm	L02212203432	1
CP304	PLUG ANGLE, 2P,	L10122002001	1
CNT301	CABLE FPC, 2P, 350mm	L30118621359	1

DIODES

D301-D312	1N4148, SWITCHING	K00041480152	12
D313	LED, SLR-34URCF25	K50003210112	1
D314/D315	1N4148, SWITCHING	K00041480152	2

INTEGRATED CIRCUITS

IC301	CXP82840-119Q	J08939322733	1 (for) D, RDS
IC301	CXP82840-113Q	J02082840113	1 (for) A, K
IC302	CRV1G342-185BD, REMOTE MODULE	E94034221000	1

TRANSISTORS

Q301	BKTC3199/2SC3199Y, NPN	J5023199Y005	1
Q306-Q308	BKTC3199/2SC3199Y, NPN	J5023199Y005	3
Q309	MPSA06, NPN	J5020600Y005	1
Q310	DTC114YS, NPN	J60201140005	1

RESISTORS

R301-R310	METAL FILM	1	kohm	1/5 W	J	C06001026P52	10
R312-R320	CARBON FILM	100	kohm	1/5 W	J	C00001046P52	9
R321-R324	CARBON FILM	47	kohm	1/5 W	J	C00004736P52	4
R325	CARBON FILM	22	kohm	1/5 W	J	C00002236P52	1
R326-R328	CARBON FILM	10	kohm	1/5 W	J	C00001036P52	3
R329	METAL FILM	4.7	kohm	1/5 W	J	C06004726P52	1
R330/R331	CARBON FILM	22	kohm	1/5 W	J	C00002236P52	2
R332/R333	CARBON FILM	10	kohm	1/5 W	J	C00001036P52	2
R336/R337	CARBON FILM	10	kohm	1/5 W	J	C00001036P52	2
R339-R341	CARBON FILM	10	kohm	1/5 W	J	C00001036P52	3
R342	CARBON FILM	100	kohm	1/5 W	J	C00001046P52	1
R343/R344	CARBON FILM	10	kohm	1/5 W	J	C00001036P52	2
R346-R349	CARBON FILM	100	kohm	1/5 W	J	C00001046P52	4
R350	CARBON FILM	10	kohm	1/5 W	J	C00001036P52	1
R351/R352	METAL FILM	3.3	ohm	1/5 W	J	C0603R306P5	2
R353-R355	CARBON FILM	10	kohm	1/5 W	J	C00001036P52	3
R356	CARBON FILM	100	kohm	1/5 W	J	C00001046P52	1
R357/R358	METAL FILM	100	ohm	1/5 W	J	C06001016P52	2
R359/R360	CARBON FILM	100	kohm	1/5 W	J	C00001046P52	2
R363	CARBON FILM	22	kohm	1/5 W	J	C00002236P52	1
R364	CARBON FILM	220	kohm	1/5 W	J	C00002246P52	1
R366-R368	METAL FILM	2.2	kohm	1/5 W	J	C06002226P52	3
R369/R370	CARBON FILM	68	kohm	1/5 W	J	C00006836P52	2
R371	CARBON FILM	10	kohm	1/5 W	J	C00001036P52	1
R372	CARBON FILM	10	kohm	1/5 W	J	C00001036P52	1 A/K(Only)
R373/R374	CARBON FILM	100	kohm	1/5 W	J	C00001046P52	2 RDS(Only)
R375	CARBON FILM	10	kohm	1/5 W	J	C00001036P52	1 A/K(Only)
R376	METAL FILM	100	ohm	1/5 W	J	C06001016P52	1
R377	CARBON FILM	100	kohm	1/5 W	J	C00001046P52	1
R378	CARBON FILM	10	kohm	1/5 W	J	C00001036P52	1
R379	METAL FILM	330	ohm	1/5 W	J	C06003316P52	1
R380	METAL FILM	180	ohm	1/5 W	J	C06001816P52	1
R381	CARBON FILM	10	kohm	1/5 W	J	C00001036P52	1
R382	METAL FILM	1	kohm	1/5 W	J	C06001026P52	1
R383/R384	CARBON FILM	10	kohm	1/5 W	J	C00001036P52	2
R385	CARBON FILM	47	kohm	1/5 W	J	C00004736P52	1
R386	METAL FILM	3.9	kohm	1/5 W	J	C06003926P52	1
R387/R388	METAL FILM	470	ohm	1/5 W	J	C06004716P52	2

MISCELLANEOUS

SW301-SW303	TECT SWICH	G18004050001	3
SW304-SW307	TECT SWICH	G18004050001	4 RDS(Only)
SW308-SW328	TECT SWICH	G18004050001	20
SW329	TECT SWICH	G18004050001	1 RDS(Only)
SW330-SW334	TECT SWICH	G18004050001	5
SW335	TECT SWICH	G18004050001	1 A/K(Only)
SW336-SW339	TECT SWICH	G18004050001	4
X-TAL301	CST10M	E83010000005	1

PCB6 ASSEMBLY P.C.BOARD TONE

CAPACITORS

C601L/R	ELECTROLYTIC SG	4.7	µF	50 V		D0404R708710	2
C602L/R	CERAMIC TUBULAR	100	pF	50 V		D00110107753	2
C603L/R	ELECTROLYTIC SG	10	µF	50 V		D04010008710	2
C604L/R	ELECTROLYTIC SG	10	µF	50 V		D04010008710	2
C605L/R	MYLAR	82	µF	63 V	J	D02082307806	2
C606L/R	MYLAR	0.015	µF	100 V	J	D02015306C06	2
C607L/R	MYLAR	0.022	µF	100 V	J	D02022306C06	2
C608L/R	MYLAR	0.003	µF	100 V	J	D02033206C06	2
C609L/R	MYLAR	0.33	µF	63 V	J	D02033407806	2
C610L/R	MYLAR	0.008	µF	100 V	J	D02082206C06	2
C611L/R	ELECTROLYTIC SG	4.7	µF	50 V	M	D0404R708710	2
C614	ELECTROLYTIC SG	47	µF	25 V	M	D04047008410	1
C615	ELECTROLYTIC SG	0.47	µF	50 V	M	D040R4708710	1

CONNECTORS

CN601	LEAD ASS'Y, 3P, 400mm	L02203407132	1
CN602	LEAD ASS'Y, 6P, 200mm	L03206207732	1

INTEGRATED CIRCUIT

IC601	NJM2068DD	J12145590000	1

TRANSISTORS

Q601	BKTC3199/2SC3199Y, NPN	J5023199Y005	1
Q602	DTA114YS, PNP	J601114YS005	1
Q603L/R	2SK117Y, FET	J5441170Y005	2

RESISTORS

R601L/R	CARBON FILM	100	kohm	1/5 W	J	C00001046P52	2
R602L/R	CARBON FILM	1	Mohm	1/5 W	J	C00001056P52	2
R603L/R	CARBON FILM	47	kohm	1/5 W	J	C00004736P52	2
R604L/R	METAL FILM	2.7	kohm	1/5 W	J	C06002726P52	2
R605L/R	CARBON FILM	10	Mohm	1/5 W	J	C00001066P52	2
R606L/R	METAL FILM	4.7	kohm	1/5 W	J	C06004726P52	2
R607L/R	CARBON FILM	27	kohm	1/5 W	J	C00002736P52	2
R608L/R	METAL FILM	3.3	kohm	1/5 W	J	C06003326P52	2
R609L/R	CARBON FILM	22	kohm	1/5 W	J	C00002236P52	2
R610L/R	METAL FILM	560	ohm	1/5 W	J	C06005616P52	2
R611L/R	METAL FILM	2.2	kohm	1/5 W	J	C06002226P52	2
R612L/R	METAL FILM	1	kohm	1/5 W	J	C06001026P52	2
R613L/R	CARBON FILM	100	kohm	1/5 W	J	C00001046P52	2
R614	CARBON FILM	100	kohm	1/5 W	J	C00001046P52	1
R615	CARBON FILM	1	Mohm	1/5 W	J	C00001056P52	1
R616/R617	METAL FILM	220	ohm	1/5 W	J	C06002216P52	2
R618L/R	CARBON FILM	1	Mohm	1/5 W	J	C00001056P52	2

SEMI FIXED VARIABLE RESISTORS

VR601/VR602	RK14K1260A07, 100K(C)	C45004206000	2
VR603	RK11K1160A07, 100KW	C45004205000	1

PCB7 ASSEMBLY P.C.BOARD SWITCH1

SW751	TACT SWITCH	G18004050001	1 A/K(Only)

PCB8 ASSEMBLY P.C.BOARD SWITCH2

C756	CAPACITORS, CERAMIC DISC 0.0047 µF, 400	D00847208K01	1 D/RDS(Only)
CN751	CONNECTOR, CTB 0240 BL102R	L03358850240	1 D/RDS(Only)
SW752	PUSH SWITCH	G00004161000	1 D/RDS(Only)

PCB9 ASSEMBLY P.C.BOARD SPKER SWITCH

C701L/R	CERAMIC TUBULAR	560	pF	50 V		D00556107753	2
R701L/R	METAL FILM	470	ohm	2 W	J	C06004716652	2
SW701/SW702	SWITCH PUSH					G00004117000	2

PCB10 ASSEMBLY P.C.BOARD VCR2 FRONT

CAPACITORS

C751-C755	CERAMIC TUBULAR	100	pF	50 V		D00110107753	5
C757/C758	CERAMIC TUBULAR	100	µF	50 V		D00510409753	2

CONNECTOR

CN752	LEAD ASS'Y, 5P, 350mm	L02205353432	1

DIODES

D752-D755	1N4148, SWITCHING	K00041480152	4

RESISTORS

R751L/R	METAL FILM	470	ohm	1/5 W	J	C06004716P52	2

PCB11 ASSEMBLY P.C.BOARD SPEAKER TERMINAL

CAPACITORS

C451	CERAMIC DISC	0.002	µF	50 V	Z	D00422209706	1
C454/C455	CERAMIC DISC	0.002	µF	50 V	Z	D00422209706	2
C458	CERAMIC DISC	0.002	µF	50 V	Z	D00422209706	1
C461/C462	MYLAR	0.047	µF	100 V	J	D00447209706	2
C459	CERAMIC DISC	0.005	µF	50 V	Z	D02047306C06	1
C464	CERAMIC DISC	0.005	µF	50 V	Z	D00447209706	1

COIL

L201C	INDUCTOR, 0.5uH	D33090000132	1

CONNECTORS

CN204	LEAD ASS'Y, 3P, 100mm	L02103103431	1
CN205	LEAD ASS'Y, 8P, 240mm	L02008244166	1
CP452	PULG, 4P	L10420200040	1

RESISTORS

R235C	METAL FILM	10	ohm	1 W	J	C06001006552	1
R451	METAL FILM	10	ohm	1 W	J	C06001006552	1
R452	METAL FILM	10	ohm	1 W	J	C06001006552	1

PCB12 ASSEMBLY P.C.BOARD SUPPLY

CAPACITORS

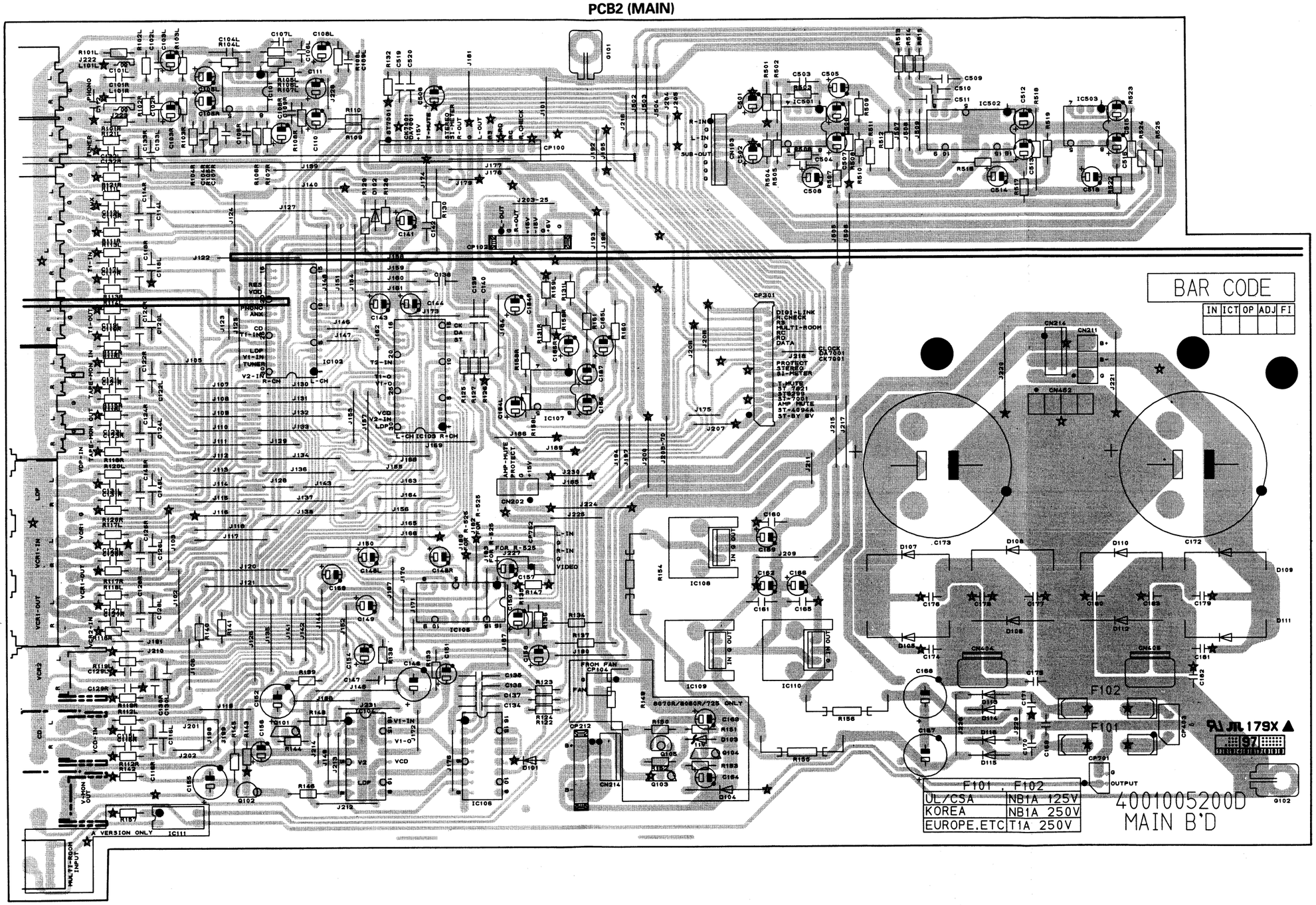
C400	CERAMIC	0.1	µF	250 V		D02010408H21	1
C401	CERAMIC DISC	0.005	µF	400 V		D00847208K01	1
C402	ELECTROLYTIC SG	1000	µF	16 V	M	D04010208320	1
C403/C404	MYLAR	0.047	µF	100 V	J	D02047306C06	2
C405	ELECTROLYTIC SG	100	µF	50 V		D04010108710	1
C406	ELECTROLYTIC SG	1	µF	50 V	M	D04001008710	1
C407	CERAMIC TUBULAR	100	µF	50 V		D00510409753	1
C408	ELECTROLYTIC SG	1	µF	50 V	M	D04001008710	1

Ref. No	Description				Part No.	Q'ty	Version
	CONNECTORS						
CP400	AC PLUG				L10402004000	1	
CP751	PLUG, BL102R				L03358850240	1	
CP401	PLUG, 2P, JE202B-1 T-2				L10820200022	1	
CP402	PLUG, 4P, 2.5mm				L10252670040	1	
CP302	PLUG, 8P, 2mm				L10122008000	1	
	DIODES						
D401-D407	RECTIFIER, 1N4003				K04040030052	7	
D408	ZENER, UZ 9.1V BSC				K06009R12452	1	
D409	ZENER, UZ 7.5V BSB				K06007R52452	1	
D410	ZENER, UZ 9.1V BSC				K06009R12452	1	
D411	ZENER, UZ 12V BSC				K06012002452	1	
D412	ZENER, UZ 4.3V BSA				K06004R31452	1	
	FUSES						
F400	S.B 6A, 125V				G65060212115	1	A
F400	T4A, 250V				G65040225116	1	D/RDS
F401	T2A/250V				G65020225116	1	D/RDS
F402	NB350mA, 125V				G65035112116	1	A
F402	T50mA				G65050125116	1	D/RDS
	RESISTORS						
R401	METAL FILM	10	ohm	1 W J	C06001006552	1	
R402	METAL FILM	470	ohm	1/5 W J	C06004716P52	1	
R403	CARBON FILM	10	kohm	1/5 W J	C00001036P52	1	
R404	METAL FILM	330	ohm	1/5 W J	C06003316P52	1	
R405	CARBON FILM	15	kohm	1/5 W J	C00001536P52	1	
R406	CARBON FILM	3.3	Mohm	1/2 W K	C06003356452	1	
R407	METAL FILM	2.2	kohm	1/5 W J	C06002226P52	1	
R408	METAL FILM	56	ohm	1 W J	C06005606552	1	
	MISCELLANEOUS						
IC400	GD7806				J12678060000	1	
Q400	2SC1740S, NPN				J5021740Y005	1	
RLY400	HRCR313DC12V				G68012163000	1	
PCB13	**ASSEMBLY P.C.BOARD PRE IN/OUT**						
	CAPACITORS						
C651-C658	CERAMIC TUBULAR	100	pF	50 V	D00110107753	8	
	CONNECTORS						
CN654	LEAD ASS'Y, 7P, 120mm				L02207123432	1	
CP601	PLUG,				L10122003000	1	
CP602	PLUG, 6P				L10122006000	1	
CP654	LEAD ASSY, 9P, 240mm				L02209243432	1	
CN209	LEAD ASS'Y, 2P, 500mm				L02202503132	1	
	DIODES						
D652-D654	1N4148, SWITCHING				K00041480152	3	
	TRANSISTORS						
Q651	KTD1303, NPN				J50313030005	1	
Q653-Q656	KTD1303, NPN				J50313030005	4	
Q658-Q660	DTA114YS, PNP				J601114YS005	3	
	RESISTORS						
R651/R652	METAL FILM	470	ohm	1/5 W J	C06004716P52	2	
R653	METAL FILM	1	kohm	1/5 W J	C06001026P52	1	
R654	METAL FILM	2.2	kohm	1/5 W J	C06002226P52	1	
R657	METAL FILM	1	kohm	1/5 W J	C06001026P52	1	
R658/R659	METAL FILM	2.2	kohm	1/5 W J	C06002226P52	2	
R660/R661	METAL FILM	1	kohm	1/5 W J	C06001026P52	2	
R662	METAL FILM	2.2	kohm	1/5 W J	C06002226P52	1	
R663	METAL FILM	1	kohm	1/5 W J	C06001026P52	1	
R664	METAL FILM	2.2	kohm	1/5 W J	C06002226P52	1	
R670-R672	CARBON FILM	47	kohm	1/5 W J	C00004736P52	3	
PCB14	**ASSEMBLY P.C.BOARD SURROUND**						
	CAPACITORS						
C801L/R	ELECTROLYTIC SG	4.7	µF	50 V	D0404R708710	2	
C802L/R	ELECTROLYTIC SG	4.7	µF	50 V	D0404R708710	2	
C804L/R	ELECTROLYTIC SG	4.7	µF	50 V	D0404R708710	2	
C805/C806	ELECTROLYTIC SG	47	µF	25 V M	D04047008410	2	
C807	ELECTROLYTIC SG	1	µF	50 V M	D04001008710	1	
C808	CERAMIC TUBULAR	0.001	µF	50 V	D00510207753	1	
C809	ELECTROLYTIC SG	22	µF	16 V M	D04022008310	1	
C810	ELECTROLYTIC SG	1	µF	50 V M	D04001008710	1	
C811	CERAMIC TUBULAR	1	µF	50 V	D00510207753	1	
C812	ELECTROLYTIC SG	10	µF	35 V M	D04010008510	1	
C813-C816	ELECTROLYTIC SG	47	µF	25 V M	D04047008410	4	
C817	CERAMIC DISC	0.1	µF	50 V K	D00510307753	1	
C818-C820	CERAMIC TUBULAR	100	pF	50 V	D00110107753	3	
C821-C823	MYLAR	0.1	µF	63 V K	D02010407806	3	
C824	CERAMIC TUBULAR	680	pF	50 V	D00568107753	1	
C826	MYLAR	0.1	µF	63 V K	D02010407806	1	
C827	ELECTROLYTIC SG	4.7	µF	50 V	D0404R708710	1	
C828/C829	MYLAR	0.22	µF	63 V K	D02022407806	2	
C830-C833	MYLAR	0.33	µF	63 V K	D02033407806	4	
C834-C837	MYLAR	0.022	µF	100 V J	D02022306C06	4	
C838	MYLAR	150	µF	63 V J	D02015407806	1	
C839	ELECTROLYTIC SG	4.7	µF	50 V	D0404R708710	1	
C840/C841	MYLAR	0.22	µF	63 V K	D02022407806	2	
C842	ELECTROLYTIC SG	10	µF	50 V	D04010008710	1	
C843-C845	MYLAR	0.01	µF	100 V J	D02010306C06	3	
C846	ELECTROLYTIC SG	100	µF	10 V	D04010108210	1	
C847	MYLAR	0.1	µF	63 V K	D02010407806	1	
C848L/R	ELECTROLYTIC SG	10	µF	50 V	D04010008710	2	
C849-C851	ELECTROLYTIC SG	4.7	µF	50 V	D0404R708710	3	
C852/C853	ELECTROLYTIC SG	47	µF	25 V M	D04047008410	2	
C854	ELECTROLYTIC SG	4.7	µF	50 V	D0404R708710	1	

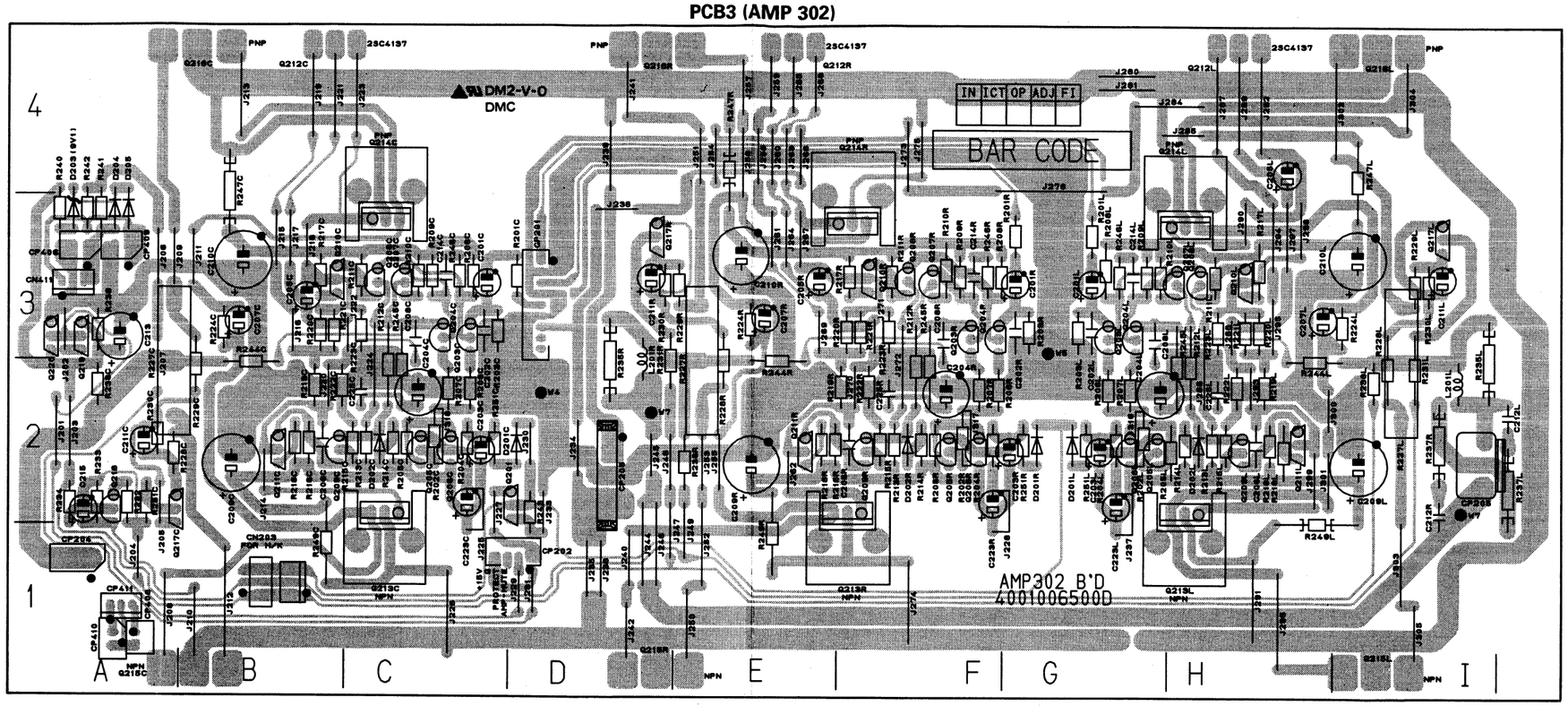
Ref. No	Description				Part No.	Q'ty	Version
C855/C856	ELECTROLYTIC SG	47	µF	25 V M	D04047008410	2	
C857	ELECTROLYTIC SG	10	µF	50 V	D04010008710	1	
C858/C859	ELECTROLYTIC SG	4.7	µF	50 V	D0404R708710	2	
C860	ELECTROLYTIC SG	1	µF	50 V M	D04001008710	1	
C861	CERAMIC TUBULAR	0.001	µF	50 V	D00510207753	1	
C862	ELECTROLYTIC SG	22	µF	16 V M	D04022008310	1	
C863	ELECTROLYTIC SG	1	µF	50 V M	D04001008710	1	
C864	CERAMIC TUBULAR	1	µF	50 V	D00510207753	1	
C865	ELECTROLYTIC SG	0.47	µF	50 V M	D040R4708710	1	
C866	ELECTROLYTIC SG	10	µF	50 V	D04010008710	1	
C867	CERAMIC TUBULAR	680	pF	50 V	D00568107753	1	
C868	MYLAR	0.006	µF	100 V J	D02056206C06	1	
C869	MYLAR	0.005	µF	100 V J	D02047206C06	1	
C870	ELECTROLYTIC SG	10	µF	50 V	D04010008710	1	
C871	CERAMIC TUBULAR	470	pF	50 V	D00547107753	1	
C872	ELECTROLYTIC SG	10	µF	50 V	D04010008710	1	
C873	ELECTROLYTIC SG	1	µF	50 V M	D04001008710	1	
C874	ELECTROLYTIC SG	10	µF	50 V	D04010008710	1	
C875	MYLAR	0.022	µF	100 V J	D02022306C06	1	
C876	MYLAR	0.005	µF	100 V J	D02047206C06	1	
C877	MYLAR	0.004	µF	100 V J	D02039206C06	1	
C878	MYLAR	0.068	µF	63 V K	D02068307806	1	
C879	MYLAR	0.22	µF	63 V K	D02022407806	1	
C880	MYLAR	0.1	µF	63 V K	D02010407806	1	
C881	ELECTROLYTIC SG	220	µF	10 V	D04022108210	1	
C882	ELECTROLYTIC SG	220	µF	16 V M	D04022108310	1	
C883	ELECTROLYTIC SG	220	µF	10 V	D04022108210	1	
C884/C885	MYLAR	0.1	µF	63 V K	D02010407806	2	
C886-C888	CERAMIC TUBULAR	100	pF	50 V	D00110107753	3	
C889/C890	ELECTROLYTIC SG	220	µF	16 V M	D04022108310	2	
C891	CERAMIC TUBULAR	150	pF	50 V	D00515107753	1	
C892	MYLAR	0.022	µF	100 V J	D02022306C06	1	
C893	CERAMIC DISC	680	pF	50 V J	D02268106705	1	
C894	ELECTROLYTIC SG	4.7	µF	50 V	D0404R708710	1	
C895	ELECTROLYTIC SG	470	µF	10 V	D04047108210	1	
C896	ELECTROLYTIC SG	4.7	µF	50 V	D0404R708710	1	
C897	CERAMIC DISC	680	pF	50 V J	D02268106705	1	
C898	MYLAR	0.022	µF	100 V J	D02022306C06	1	
C899	CERAMIC TUBULAR	150	pF	50 V	D00515107753	1	
C900	MYLAR	0.15	µF	63 V K	D02015407806	1	
C901-C903	CERAMIC TUBULAR	100	pF	50 V	D00110107753	3	
C904/C905	ELECTROLYTIC SG	47	µF	25 V M	D04047008410	2	
C906	ELECTROLYTIC SG	1	µF	50 V M	D04001008710	1	
C907	MYLAR	0.01	µF	100 V J	D02010306C06	1	
C908/C909	ELECTROLYTIC SG	47	µF	25 V M	D04047008410	2	
C910-C912	CERAMIC TUBULAR	100	pF	50 V	D00110107753	4	
C913	ELECTROLYTIC SG	100	µF	16 V M	D04010108310	1	
C914/C915	ELECTROLYTIC SG	100	µF	10 V	D04010108210	2	
C916	MYLAR	0.047	µF	100 V J	D02047306C06	1	
C917	ELECTROLYTIC SG	10	µF	50 V	D04010008710	1	
C918/C919	ELECTROLYTIC SG	220	µF	10 V	D04022108210	2	
C920	CERAMIC TUBULAR	680	pF	50 V	D00568107753	1	
C921	CERAMIC TUBULAR	100	µF	50 V	D00510409753	1	
C922	MYLAR	0.1	µF	63 V K	D02010407806	1	
C924-C926	CERAMIC TUBULAR	100	µF	50 V	D00510409753	3	
	CONNECTORS						
CN102	PLUG, 8P				L11150760080	1	
CP303	PLUG, 12P				L10122012000	1	
CP602	PLUG, 6P				L10122006000	1	
CP654	PLUG, 7P				L10122007000	1	
	DIODES						
D801/D802	1N4148, SWITCHING				K00041480152	2	
D803	ZENER, UZ 12V BSC				K06012002452	1	
D804/D805	1N4148, SWITCHING				K00041480152	2	
D906/D907	ZENER, UZ 6.8V BSC				K06006R81452	2	
	INTEGRATED CIRCUIT						
IC801-IC805	KIA4559P/KIA75559P				J12145590001	5	
IC806	MC14094BCP				J04014094000	1	
IC807	SSM-2126				J08121260000	1	
IC808	LV-1000				J08110000000	1	
IC809	256K D-RAM				J00161256000	1	
IC810	MC14094BCP				J04014094000	1	
IC811	LC7822				J08078220000	1	
IC812	TC9299				J08492990000	1	
IC813	TA7291S				J12772910000	1	
	TRANSISTORS						
Q801	BKTA1267Y, PNP				J5001267Y005	1	
Q802-Q804	DTC114YS, NPN				J60201140005	3	
Q805	DTA114YS, PNP				J601114YS005	1	
Q806	BKTC3199/2SC3199Y, NPN				J5023199Y005	1	
	RESISTORS						
R801L/R	CARBON FILM	100	kohm	1/5 W J	C00001046P52	2	
R802	CARBON FILM	22	kohm	1/5 W J	C00002236P52	1	
R803L/R	CARBON FILM	100	kohm	1/5 W J	C00001046P52	2	
R804L/R	METAL FILM	470	ohm	1/5 W J	C06004716P52	2	
R805L/R	METAL FILM	1	kohm	1/5 W J	C06001026P52	2	
R806L/R	CARBON FILM	100	kohm	1/5 W J	C00001046P52	2	
R807/R808	METAL FILM	220	ohm	1/5 W J	C06002216P52	2	
R809	METAL FILM	1	kohm	1/5 W J	C06001026P52	1	
R810	CARBON FILM	1	Mohm	1/5 W J	C00001056P52	1	
R811	METAL FILM	1.5	kohm	1/5 W J	C06001526P52	1	
R812	CARBON FILM	5.1	kohm	1/5 W J	C00005126P52	1	
R813	CARBON FILM	10	kohm	1/5 W J	C00001036P52	1	
R814	METAL FILM	1	kohm	1/5 W J	C06001026P52	1	
R815	CARBON FILM	1	Mohm	1/5 W J	C00001056P52	1	
R816	METAL FILM	4.7	kohm	1/5 W J	C06004726P52	1	
R817	METAL FILM	1.5	kohm	1/5 W J	C06001526P52	1	

Ref. No	Description				Part No.	Q'ty	Version
R818	CARBON FILM	10	kohm	1/5 W J	C00001036P52	1	
R819	METAL FILM	1	kohm	1/5 W J	C06001026P52	1	
R820-R823	METAL FILM	220	ohm	1/5 W J	C06002216P52	4	
R824-R826	METAL FILM	1	kohm	1/5 W J	C06001026P52	3	
R827/R828	CARBON FILM	7.5	kohm	1/5 W J	C00007526P52	2	
R829	CARBON FILM	47	kohm	1/5 W J	C00004736P52	1	
R830	CARBON FILM	15	kohm	1/5 W J	C00001536P52	1	
R831	CARBON FILM	47	kohm	1/5 W J	C00004736P52	1	
R832	CARBON FILM	15	kohm	1/5 W J	C00001536P52	1	
R833	CARBON FILM	10	Mohm	1/5 W J	C00001066P52	1	
R834-R836	CARBON FILM	22	kohm	1/5 W J	C00002236P52	3	
R837L/R	CARBON FILM	6.8	kohm	1/5 W J	C00006826P52	2	
R838L/R	CARBON FILM	100	kohm	1/5 W J	C00001046P52	2	
R839/R840	CARBON FILM	10	kohm	1/5 W J	C00001036P52	2	
R841-R843	CARBON FILM	22	kohm	1/5 W J	C00002236P52	3	
R844	METAL FILM	1.5	kohm	1/5 W J	C06001526P52	1	
R845	METAL FILM	680	ohm	1/5 W J	C06006816P52	1	
R846	METAL FILM	1.8	kohm	1/5 W J	C06001826P52	1	
R847/R848	METAL FILM	220	ohm	1/5 W J	C06002216P52	2	
R849/R850	CARBON FILM	22	kohm	1/5 W J	C00002236P52	2	
R851/R852	METAL FILM	220	ohm	1/5 W J	C06002216P52	2	
R853	METAL FILM	4.7	kohm	1/5 W J	C06004726P52	1	
R854/R855	CARBON FILM	100	kohm	1/5 W J	C00001046P52	2	
R856	CARBON FILM	47	kohm	1/5 W J	C00004736P52	1	
R857/R858	CARBON FILM	100	kohm	1/5 W J	C00001046P52	2	
R859	METAL FILM	1	kohm	1/5 W J	C06001026P52	1	
R860	CARBON FILM	1	Mohm	1/5 W J	C00001056P52	1	
R861	METAL FILM	1.5	kohm	1/5 W J	C06001526P52	1	
R862	METAL FILM	3.3	kohm	1/5 W J	C06003326P52	1	
R863	CARBON FILM	10	kohm	1/5 W J	C00001036P52	1	
R864	METAL FILM	1	kohm	1/5 W J	C06001026P52	1	
R865	CARBON FILM	1	Mohm	1/5 W J	C00001056P52	1	
R866	METAL FILM	1.5	kohm	1/5 W J	C06001526P52	1	
R867	METAL FILM	4.7	kohm	1/5 W J	C06004726P52	1	
R868	CARBON FILM	10	kohm	1/5 W J	C00001036P52	1	
R869	METAL FILM	1	kohm	1/5 W J	C06001026P52	1	
R870	METAL FILM	3.9	kohm	1/5 W J	C06003926P52	1	
R871	CARBON FILM	39	kohm	1/5 W J	C00003936P52	1	
R872/R873	CARBON FILM	8.2	kohm	1/5 W J	C00008226P52	2	
R874	CARBON FILM	15	kohm	1/5 W J	C00001536P52	1	
R875	METAL FILM	3.3	kohm	1/5 W J	C06003326P52	1	
R876	CARBON FILM	47	kohm	1/5 W J	C00004736P52	1	
R877	CARBON FILM	1	Mohm	1/5 W J	C00001056P52	1	
R878	METAL FILM	56	ohm	1/5 W J	C06005606P52	1	
R879	CARBON FILM	10	kohm	1/5 W J	C00001036P52	1	
R880	METAL FILM	56	ohm	1 W J	C06005606552	1	
R881	CARBON FILM	5.6	kohm	1/5 W J	C00005626P52	1	
R882	CARBON FILM	47	kohm	1/5 W J	C00004736P52	1	
R883-R885	METAL FILM	1	kohm	1/5 W J	C06001026P52	3	
R886/R887	CARBON FILM	220	kohm	1/5 W J	C00002246P52	2	
R888	METAL FILM	1	kohm	1/5 W J	C06001026P52	1	
R889	CARBON FILM	47	kohm	1/5 W J	C00004736P52	1	
R890	METAL FILM	220	ohm	1/5 W J	C06002216P52	1	
R891-R893	METAL FILM	1	kohm	1/5 W J	C06001026P52	3	
R894	CARBON FILM	100	kohm	1/5 W J	C00001046P52	1	
R895-R897	METAL FILM	220	ohm	1/5 W J	C06002216P52	3	
R898-R900	METAL FILM	1	kohm	1/5 W J	C06001026P52	3	
R901	METAL FILM	820	ohm	1/5 W J	C06008216P52	1	
R902	METAL FILM	220	ohm	1/5 W J	C06002216P52	1	
R903	METAL FILM	7.5	kohm	1/5 W J	C00007526P52	1	
R904	METAL FILM	10	kohm	1/5 W J	C00001036P52	1	
R905	CARBON FILM	22	kohm	1/5 W J	C00002236P52	1	
R906/R907	METAL FILM	150	ohm	1 W J	C06001516552	2	
R908	CARBON FILM	8.2	kohm	1/5 W J	C00008226P52	1	
R910	METAL FILM	2.2	kohm	1/5 W J	C06002226P52	1	
	SEMI FIXED VARIABLE RESISTORS						
VR801	50KAX4				C49514530320	1	
VR802	10K(B)				C54110311500	1	
	MISCELLANEOUS						
X-TAL801	CST8M				E83080000005	1	
PCB15	**ASSEMPLY P.C.BOARD CNT-1**						
CN206	PLUG, 8P				L11150760080	1	
CN212	PLUG, 9P				L11150760080	1	

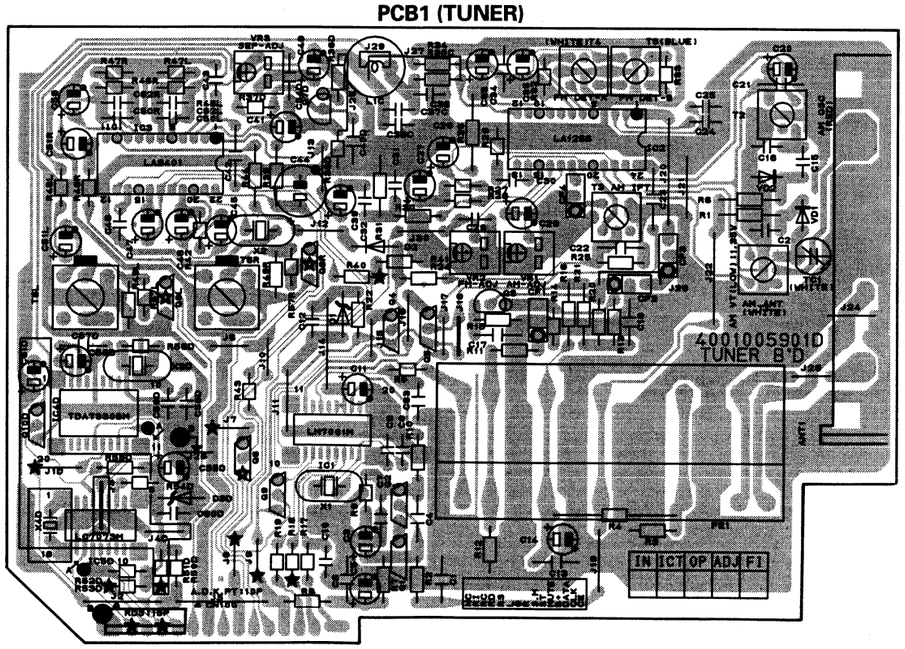
PCB2 (MAIN)


BAR CODE
IN ICT OP ADJ FI
F101 : F102
UL/CSA NB1A 125V
KOREA NB1A 250V
EUROPE.ETC T1A 250V
4001005200D
MAIN B'D
JR 179X ▲
A VERSION ONLY
MULTI-ROOM INPUT

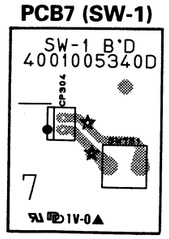
PCB3 (AMP 302)



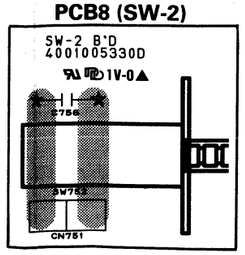
PCB1 (TUNER)



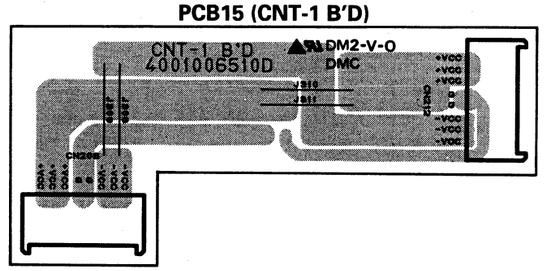
PCB7 (SW-1)



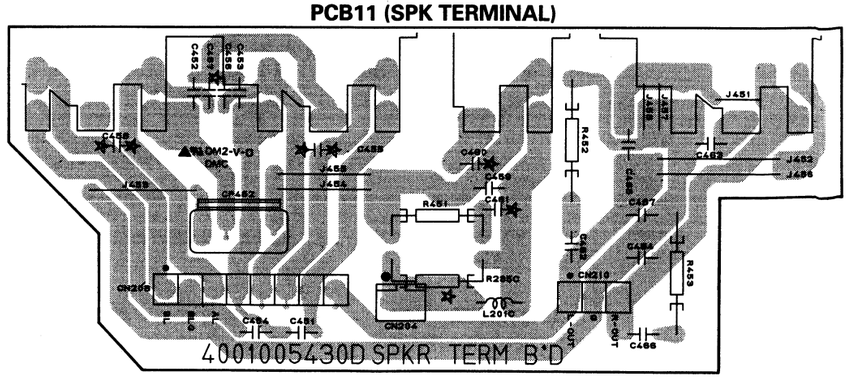
PCB8 (SW-2)



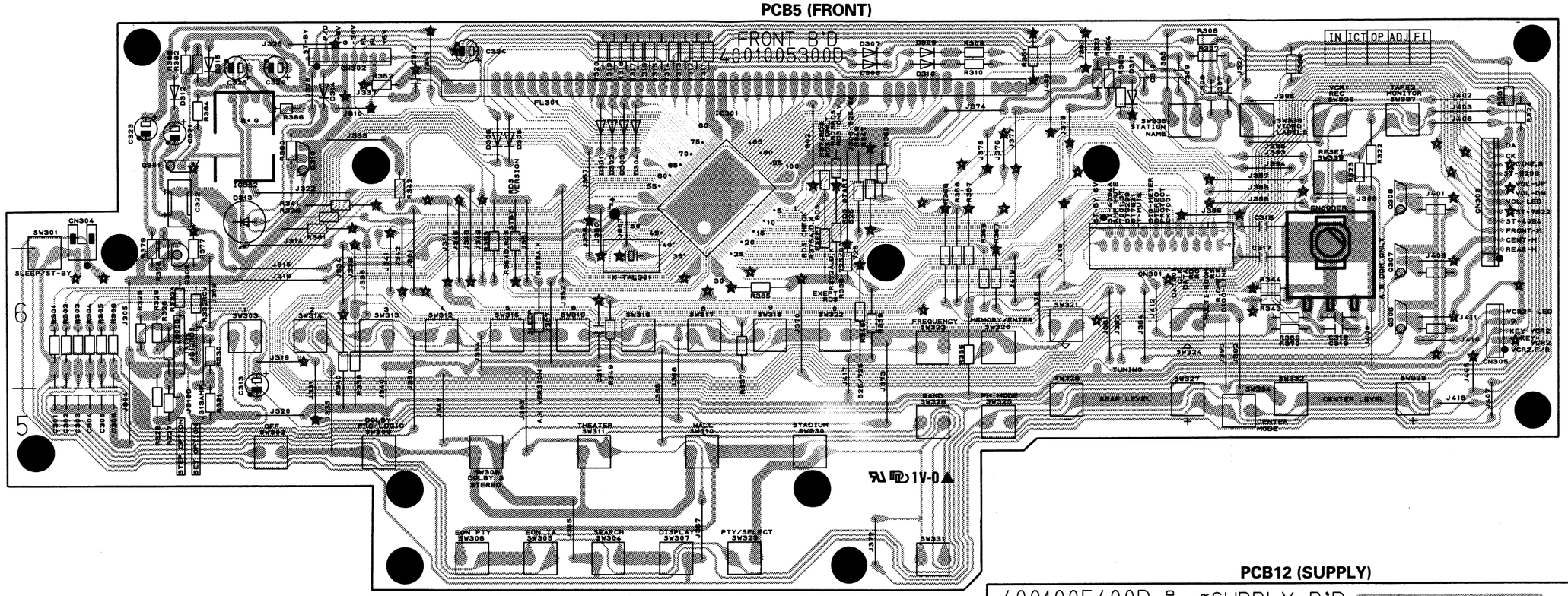
PCB15 (CNT-1 B'D)



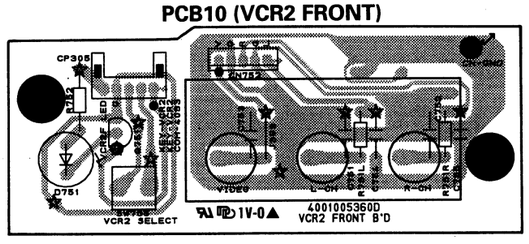
PCB11 (SPK TERMINAL)



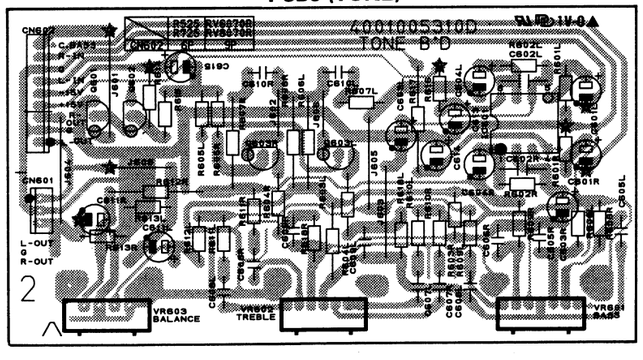
PCB5 (FRONT)



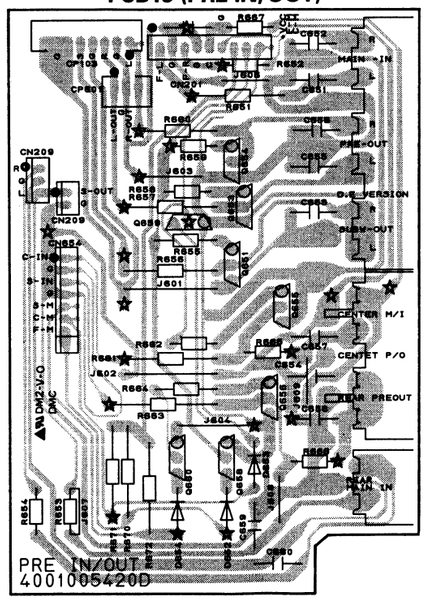
PCB10 (VCR2 FRONT)



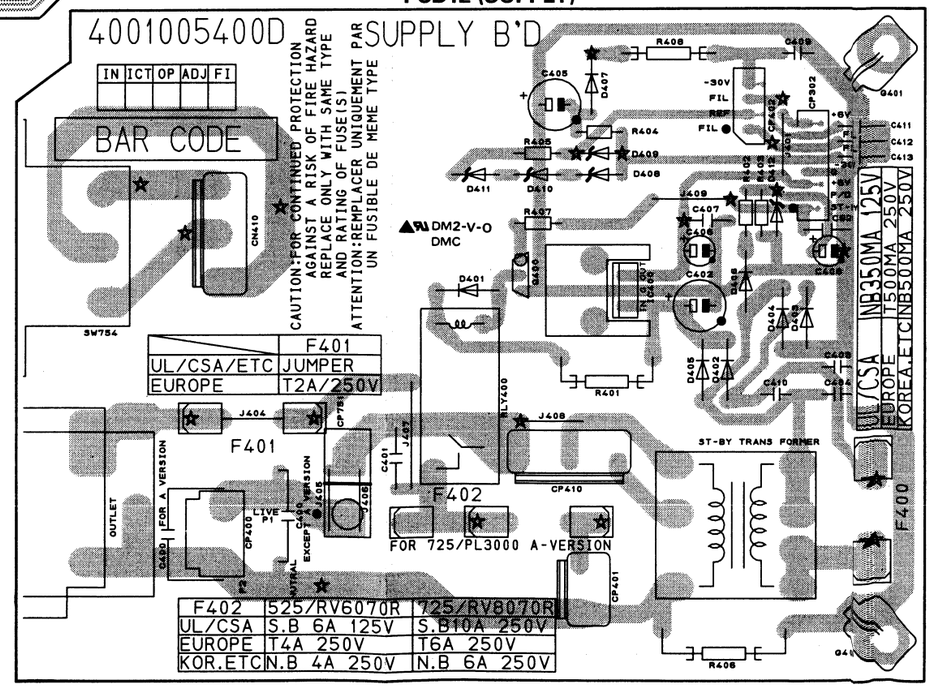
PCB6 (TONE)



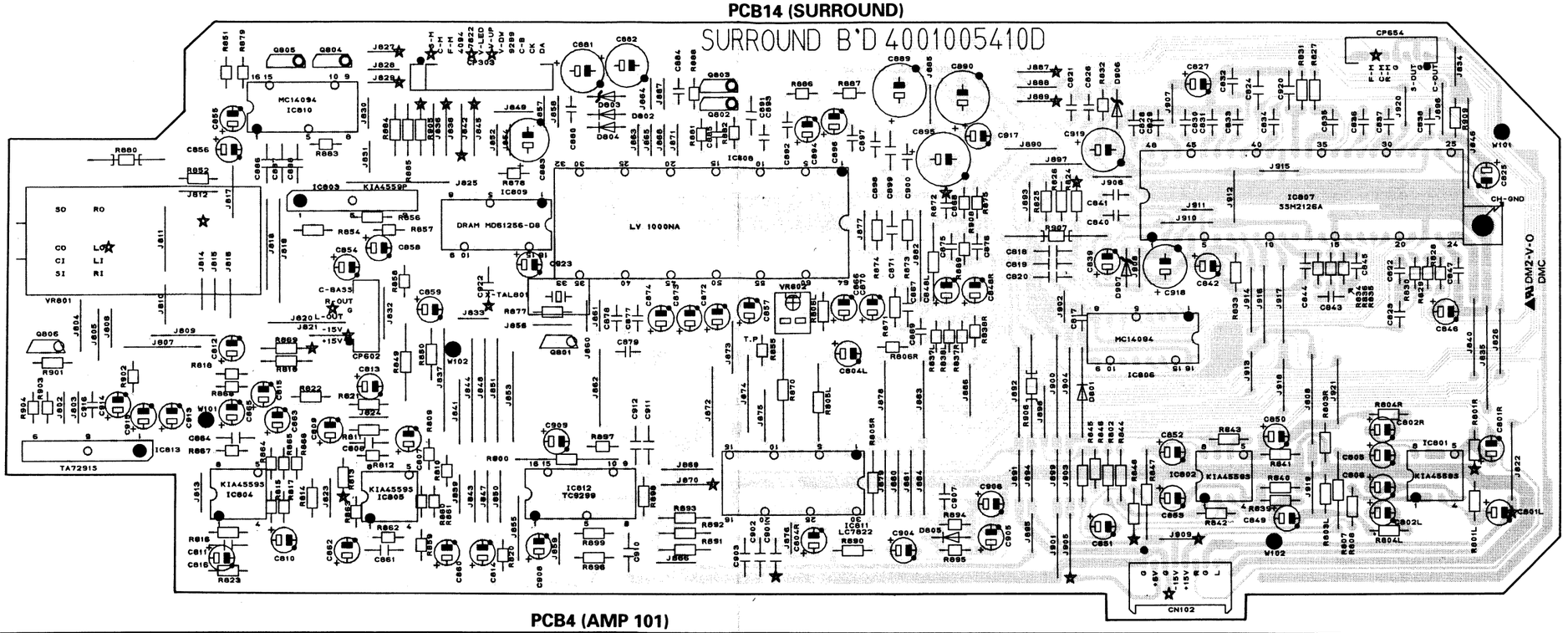
PCB13 (PRE IN/OUT)



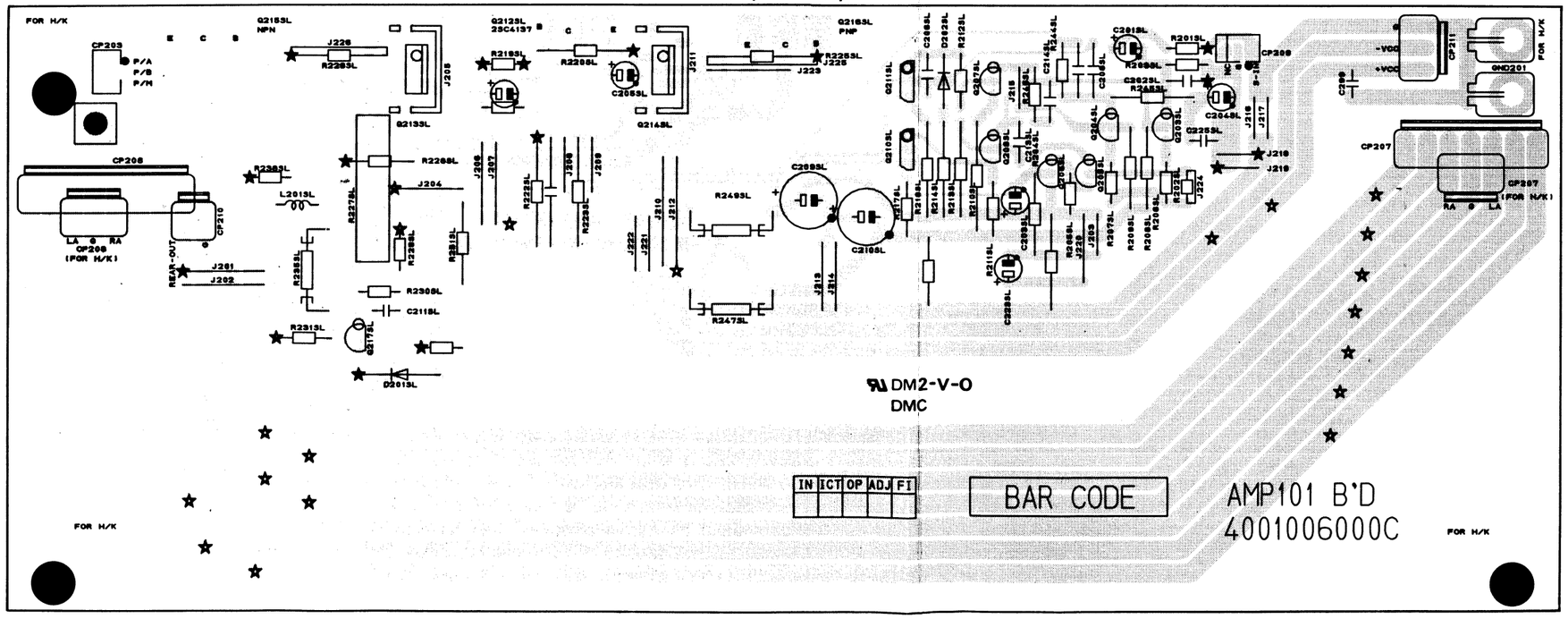
PCB12 (SUPPLY)



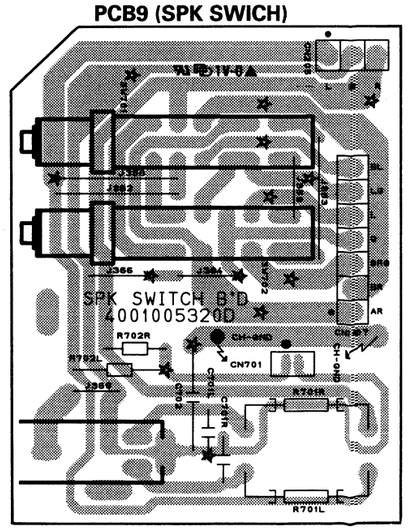
PCB14 (SURROUND)



PCB4 (AMP 101)

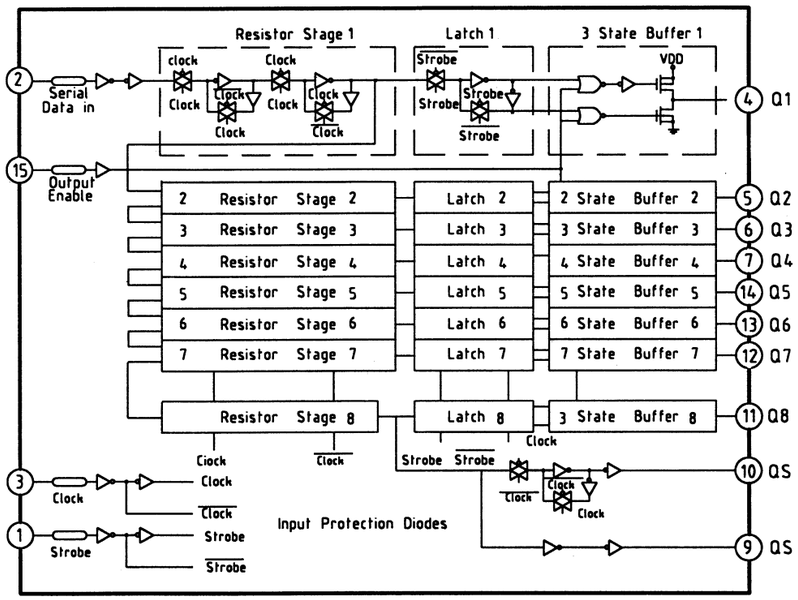


PCB9 (SPK SWICH)

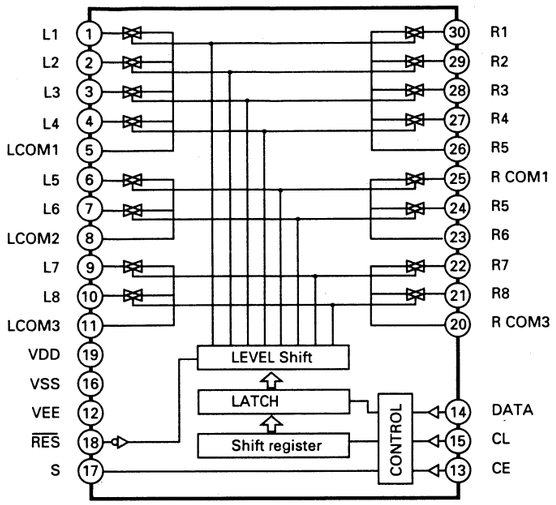


IC FUNCTIONAL BLOCK DIAGRAM

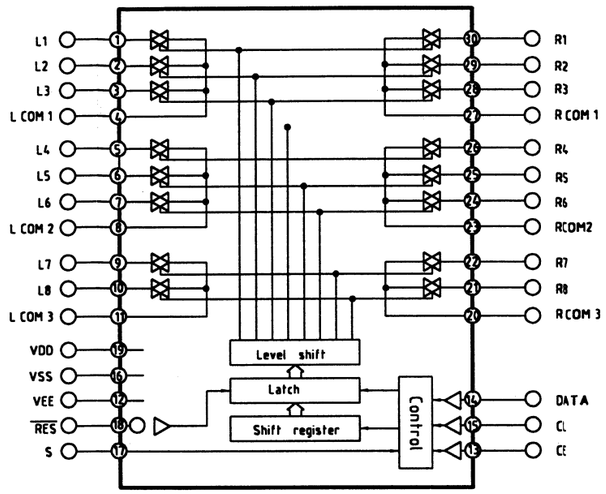
IC 106, 806 : MC14094BCP



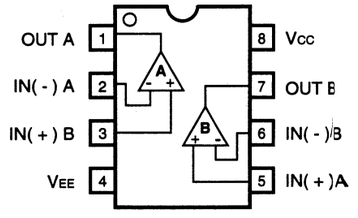
IC 102, 103 : LC7821



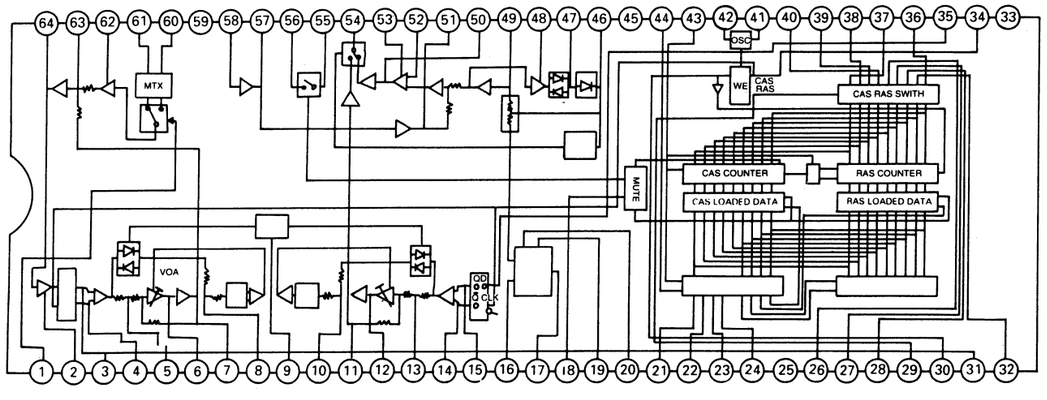
IC 811 : LC7822



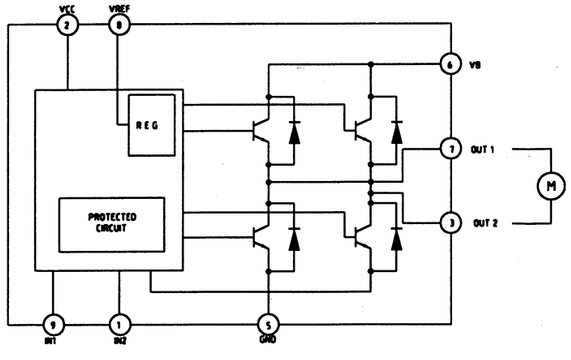
IC 601 : NJM2068DD



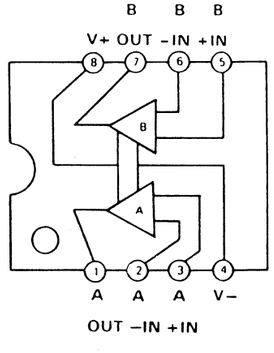
IC 808 : LV-1000



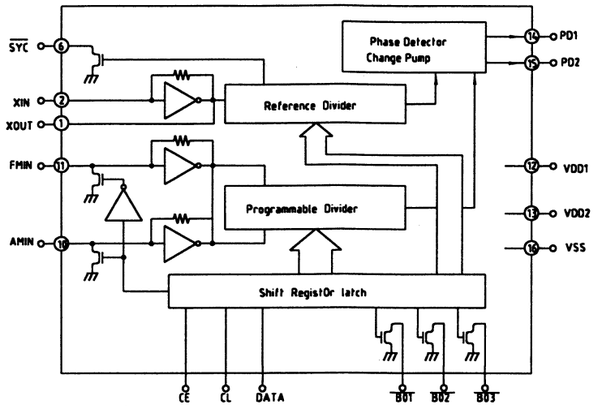
IC 813 : TA7291S



IC 801-805 : KIA 4559P

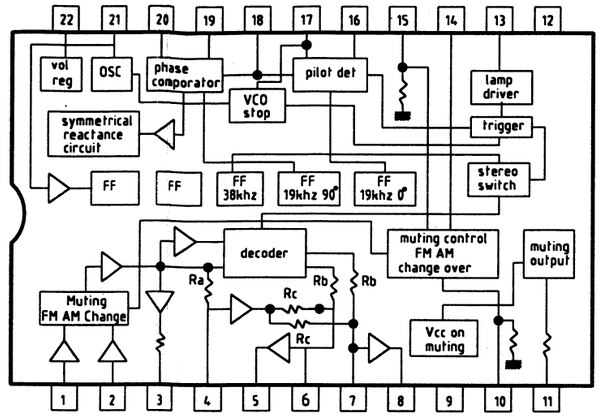


IC 1 : LM7001M

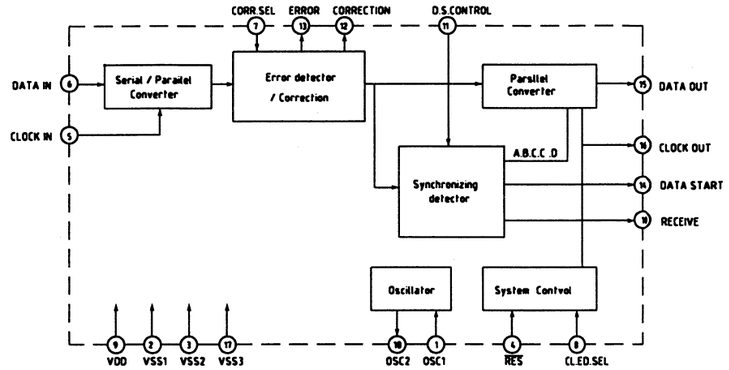


Pin Name		
No	LM 7001	LM7001M
1	XOUT	XOUT
2	XIN	XIN
3	CE	NC
4	CL	CE
5	DATA	CL
6	SYC	DATA
7	B01	SYC
8	B02	B01
9	B03	B02
10	AMIN	B03
11	FMIN	NC
12	VDD1	AMIN
13	VDD2	NC
14	PD1	FMIN
15	PD2	NC
16	VSS	VDD1
17		VDD2
18		PD1
19		PD2
20		VSS

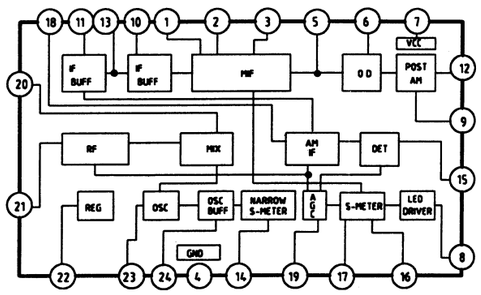
IC 3 : LA3401



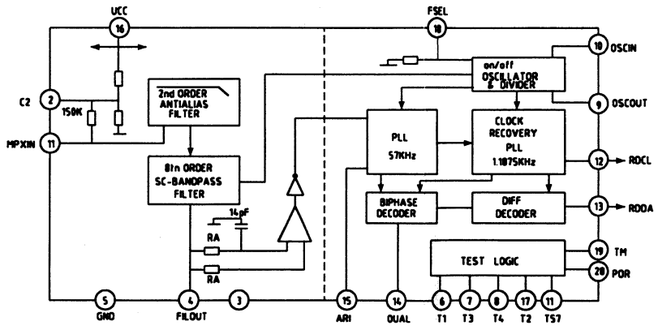
IC 5 : LC7073M



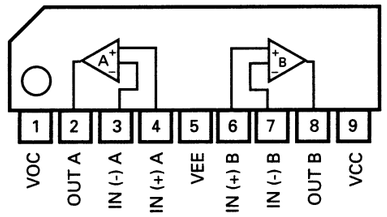
IC 2 : LA1266G



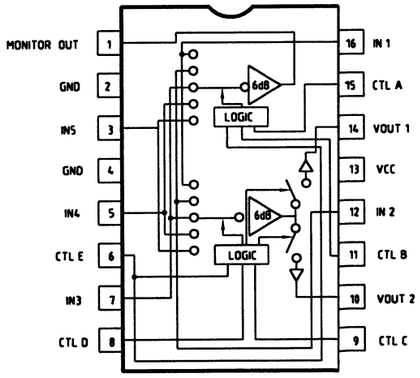
IC 4 : TDA7330BD



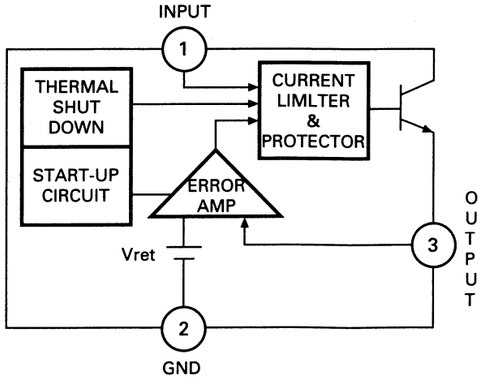
IC 101, 107, 501, 503 : KIA4559



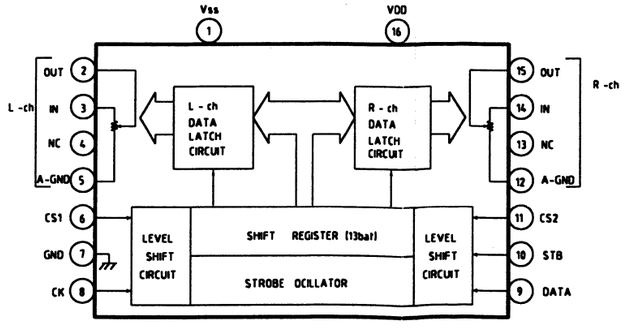
IC 104 : BA7625



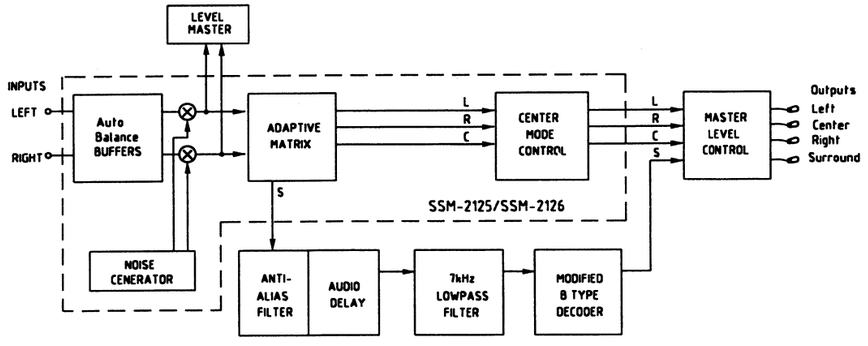
IC 108, 400 : KA7806/GD7806
IC 109 : GD7815



IC 502, 812 : TC9299



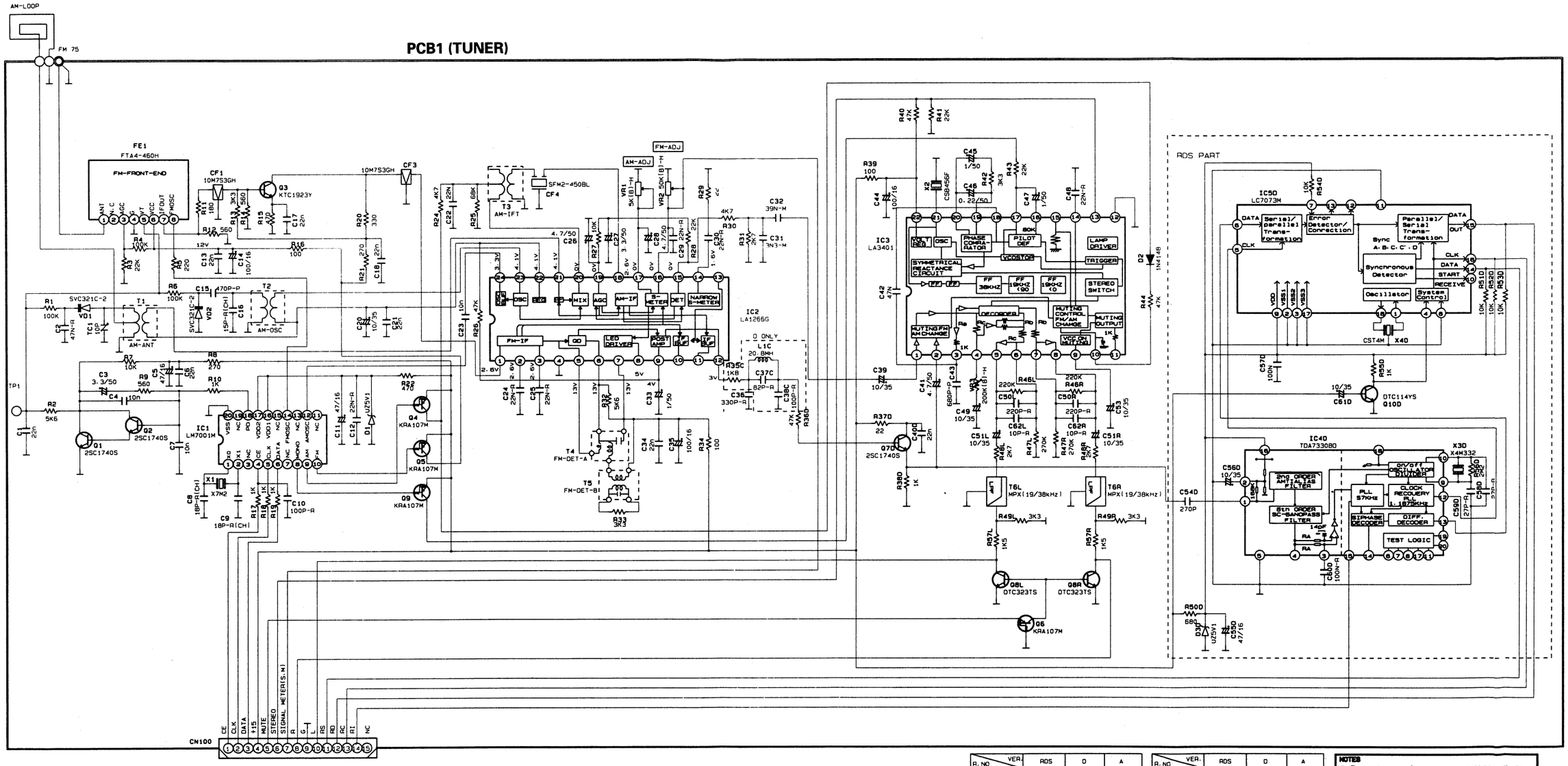
IC 807 : SSM-2126



SCHEMATIC DIAGRAM (I)

Model No. : R-525/RDS

PCB1 (TUNER)



A.NO \ VER.	RDS	D	A
R31	2K7	2K7	10K
CF1	10.7MS	10.7MS	10.7MA
CF3	10.7MS	10.7MS	10.7MA
F-END	FTA4-460H	FTA4-460H	FTA4-556H
J18	X	X	X
J3	X	X	X

A.NO \ VER.	RDS	D	A
R26	47K	47K	18K
R35C	1K8	1K8	J27
R46L	220K	220K	120K
R46A	220K	220K	120K
R47L	270K	270K	180K
R47A	270K	270K	180K
C37C	82P-A	82P-A	X
C38C	100P-A	100P-A	X
C50L	220P-A	220P-A	560P
C50A	220P-A	220P-A	560P
C62L	10P-A	10P-A	68P
C62A	10P-A	10P-A	68P
R360	47K	J25	J25
R380	1K	X	X
C40D	22N	X	X
R37D	22	X	X
CF2 10.7	J26	J26	J26
Q7D	C1740	X	X
L1C	20.8MH	20.8MH	X
C35			330P-A

NOTES

1. Resistor values are indicated in ohms unless otherwise specified. [K=1.000 M=1.000.000]
2. Capacitor values are indicated in microfarades unless otherwise specified. [p=micro-microfarades]

CAUTION

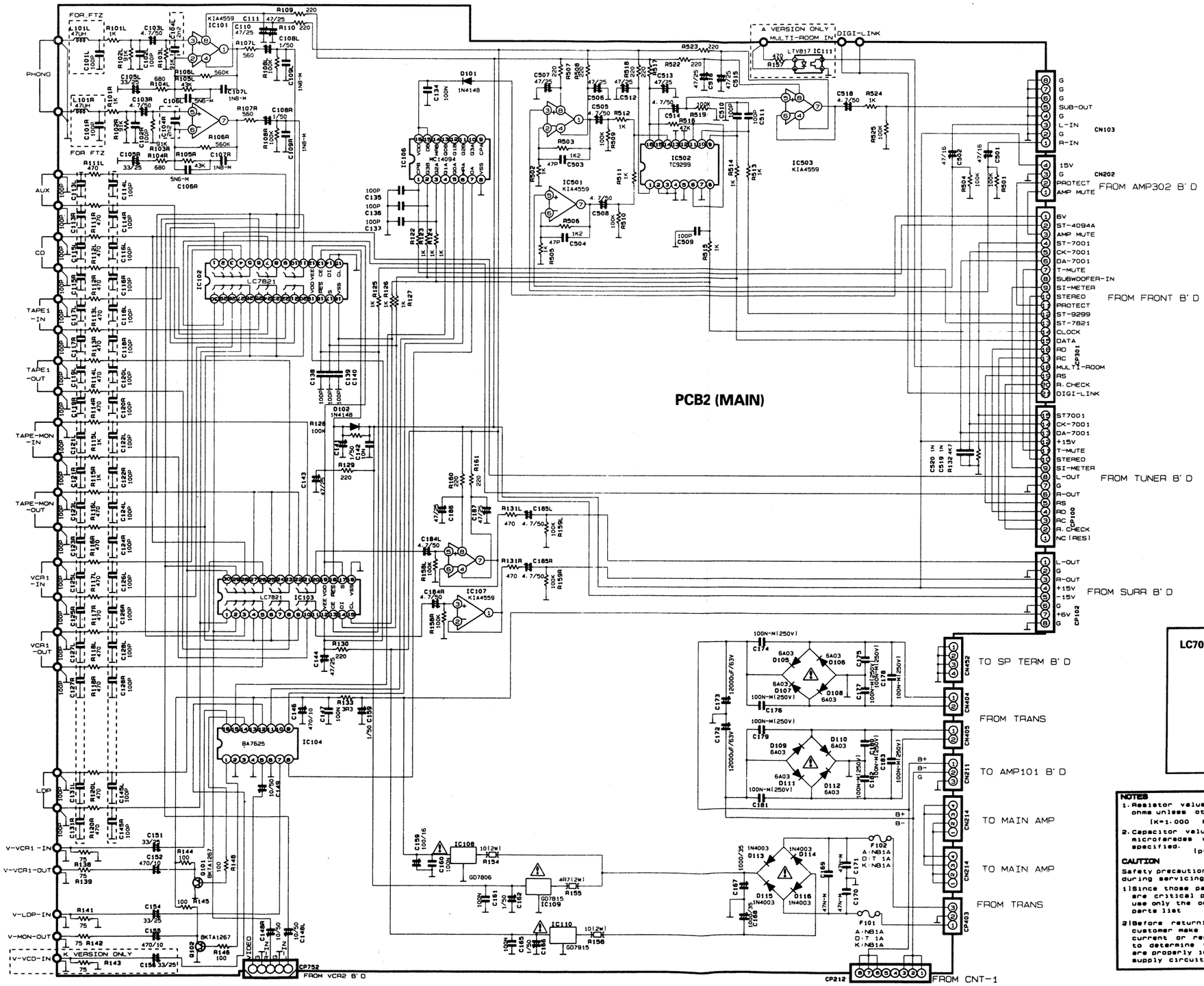
Safety precaution to be followed during servicing

1) Since those parts marked with ⚠ are critical parts for safety, use only the one described in the parts list

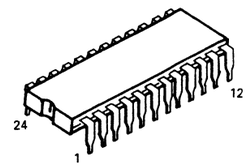
2) Before returning the set to the customer make appropriate leakage current or resistance measurements to determine the exposed parts are properly insulated from the supply circuit.

SCHEMATIC DIAGRAM (II)

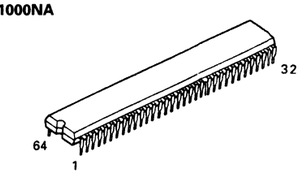
Model No. : R-525/RDS



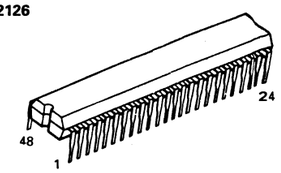
LA1266



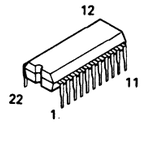
LV1000NA



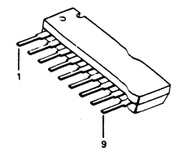
SSM-2126



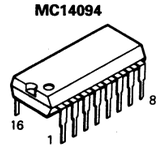
LA3401



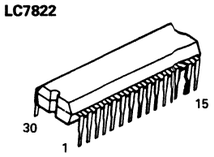
TA7291S KIA4559



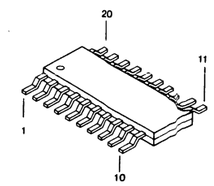
LC7073H BA7625 TC9299 MC14094



LC7821 LC7822



LM7001/M TDA7330BD



NOTES

1. Resistor values are indicated in ohms unless otherwise specified [K=1,000 M=1,000,000]
2. Capacitor values are indicated in microfarades unless otherwise specified. [p=micro-microfarades]

CAUTION

Safety precaution to be followed during servicing

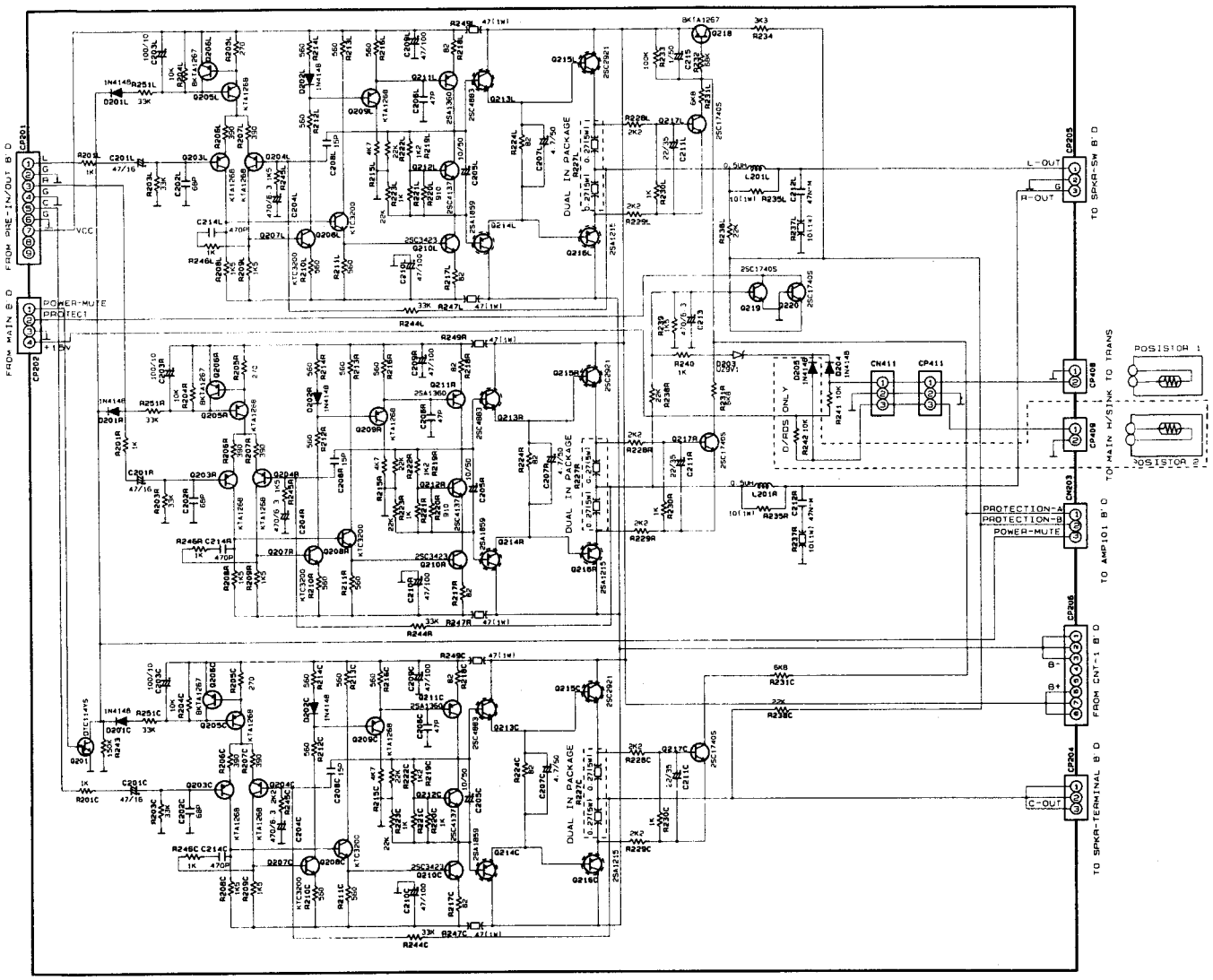
1) Since those parts marked with ⚠ are critical parts for safety, use only the one described in the parts list

2) Before returning the set to the customer make appropriate leakage current or resistance measurements to determine the exposed parts are properly insulated from the supply circuit.

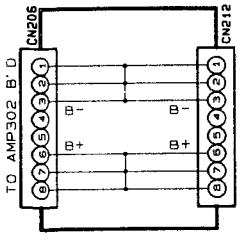
SCHEMATIC DIAGRAM (III)

Model No. : R-525/RDS

PCB3 (AMP 302)



PCB15 (CNT-1)



NOTES

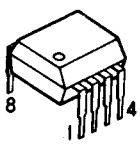
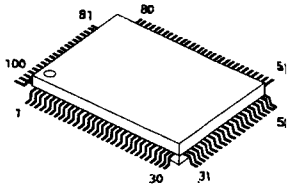
1. Resistor values are indicated in ohms unless otherwise specified [K=1,000 M=1,000,000]
2. Capacitor values are indicated in microfarades unless otherwise specified. [p=micro-microfarades]

CAUTION

Safety precaution to be followed during servicing

1) Since those parts marked with ⚠ are critical parts for safety, use only the one described in the parts list

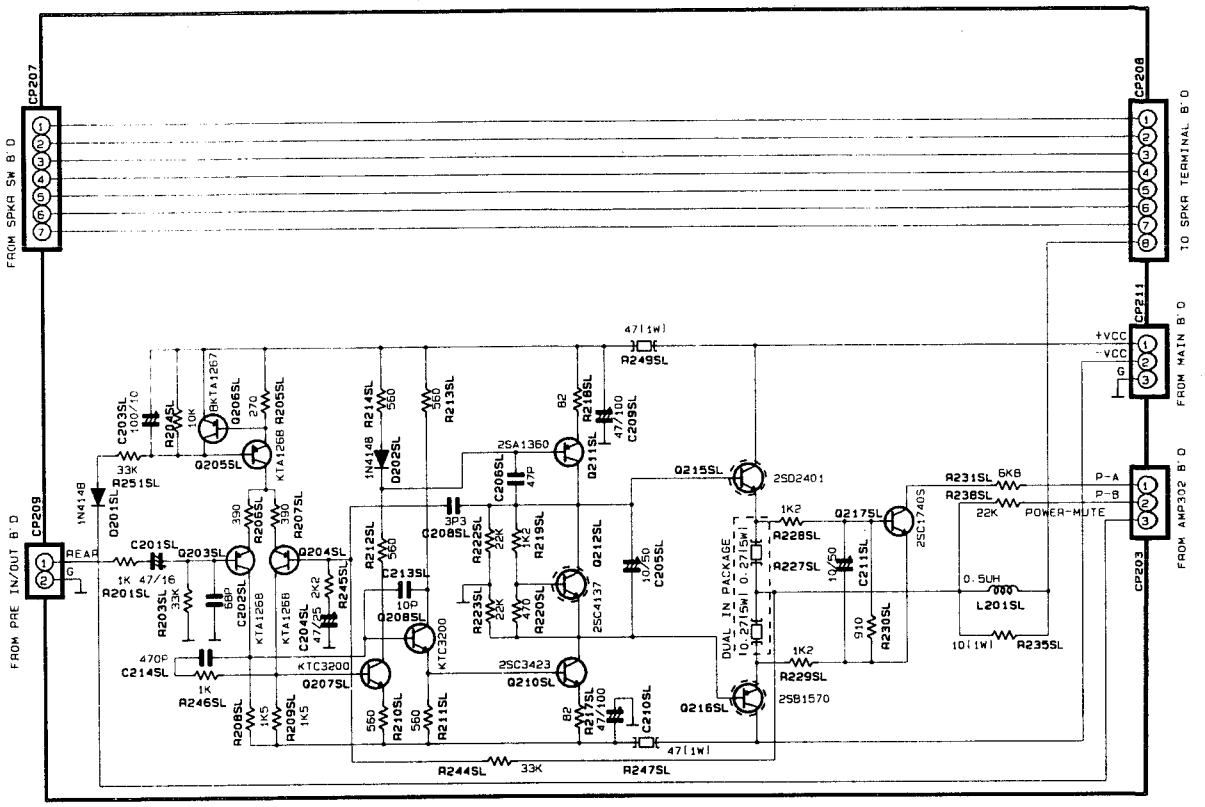
2) Before returning the set to the customer make appropriate leakage current or resistance measurements to determine the exposed parts are properly insulated from the supply circuit.

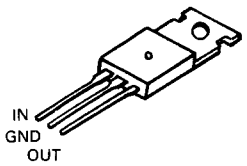
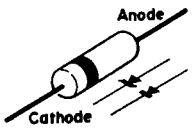
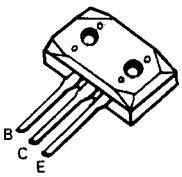
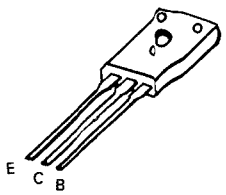
KIA4559P/KIA7555P NJM2068D	CXP82840
	

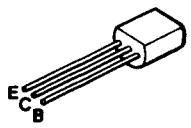
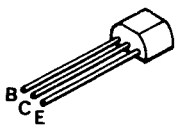
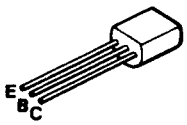
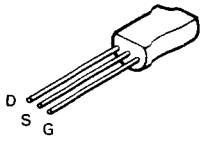
SCHEMATIC DIAGRAM (IV)

Model No. : R-525/RDS

PCB4 (AMP 101)



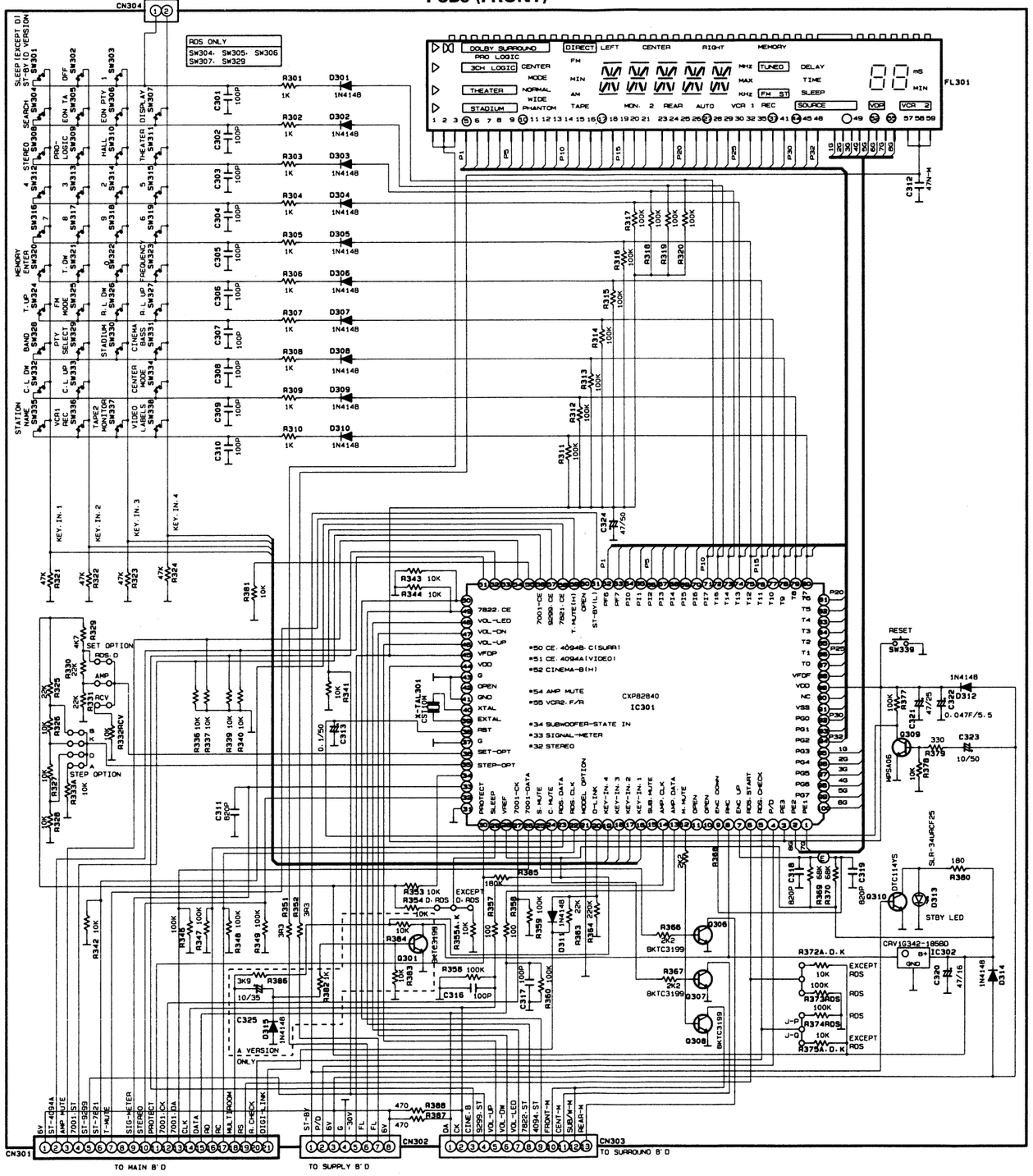
KIA7806/GD7806 **KIA7815/KIA7915** **2SA1859A/2SC4883A**	**ZENER DIODE** **IN4003** **IN4148**	**2SA1215, 2SC2921** **2SB1570, 2SD2401**	**2SA1360 2SC3423** **2SC4137**
			

KDA970/KTA1268 **KTA1266/KTA1015Y** **KTC2240/KTC3200** **KTC3198/KTC1815Y**	**KRA107M/DTA114YS** **DTC114YS KTD1303** **KTC3199Y KTA1267** **2SC1740**	**MPSA06** **MPSA56**	**2SK117**
			

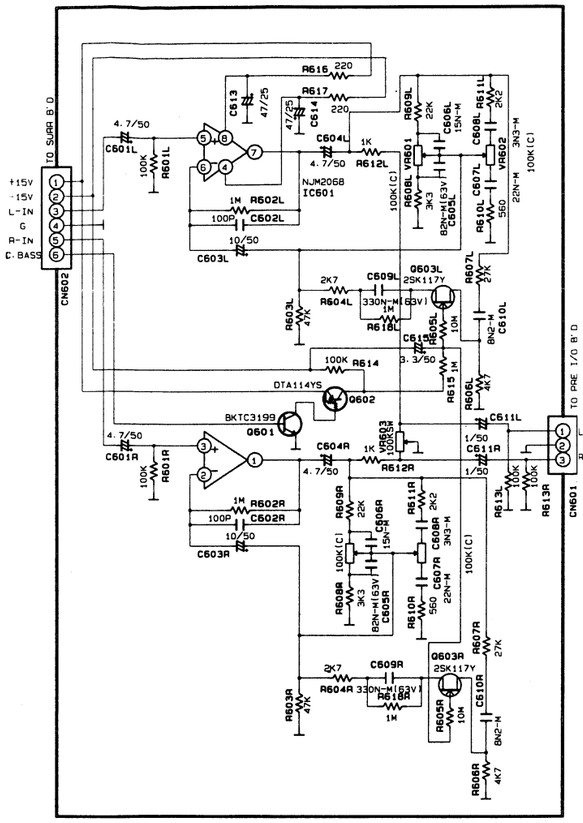
SCHEMATIC DIAGRAM (V)

Model No. : R-525/RDS

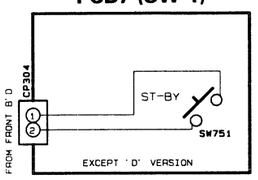
PCB5 (FRONT)



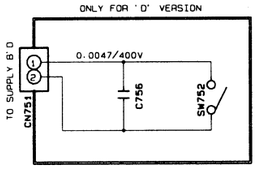
PCB6 (TONE)



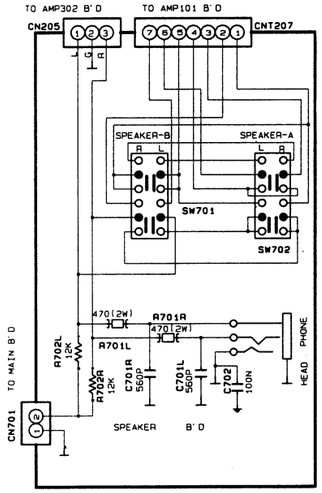
PCB7 (SW-1)



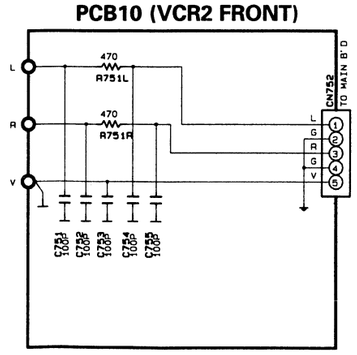
PCB8 (SW-2)



PCB9 (SPK SW)

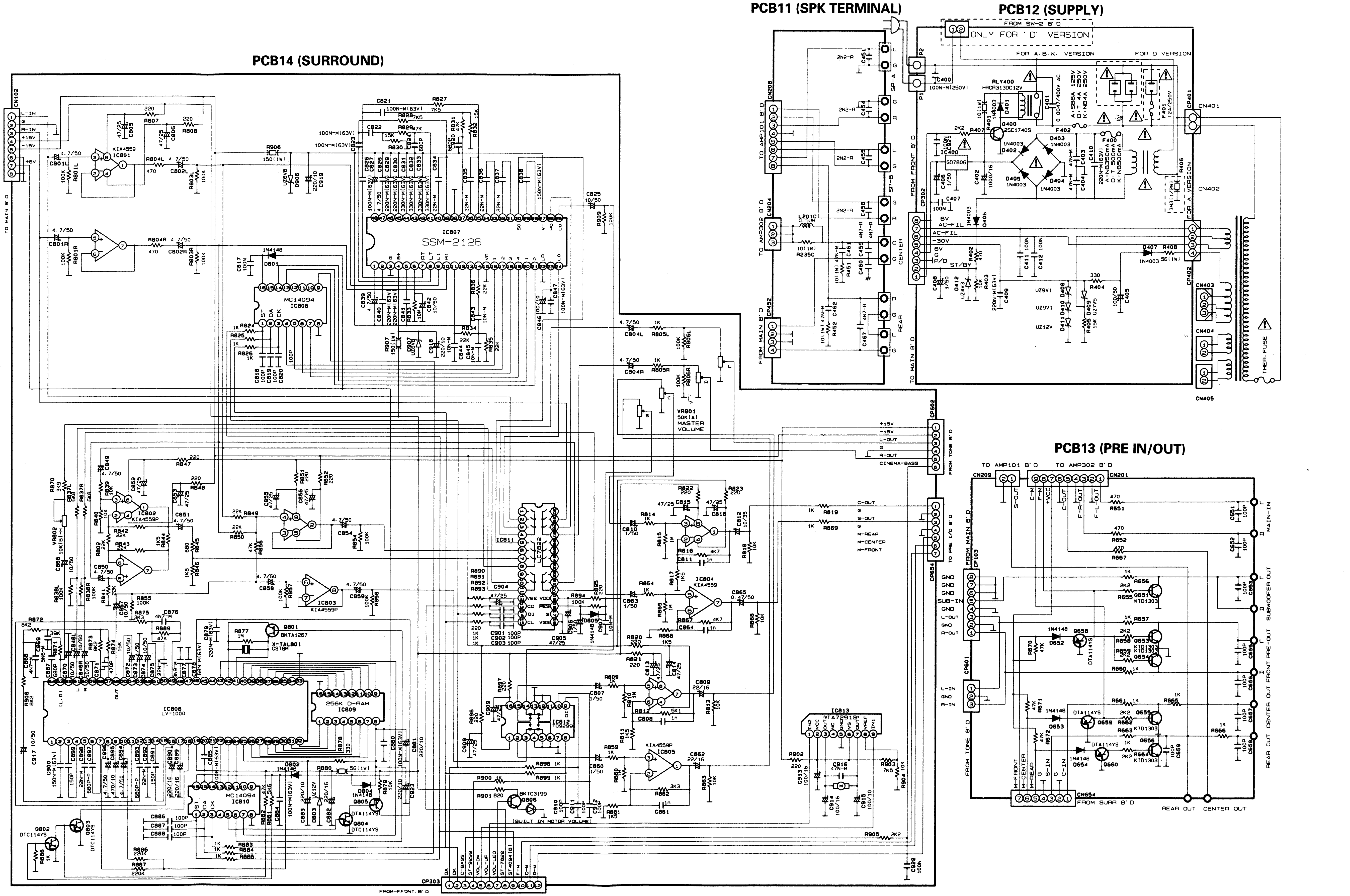


PCB10 (VCR2 FRONT)



SCHEMATIC DIAGRAM (VI)

Model No. : R-525/RDS


PCB14 (SURROUND)
PCB11 (SPK TERMINAL)
PCB12 (SUPPLY)
PCB13 (PRE IN/OUT)
CN102
TO MAIN B'D
L-IN
G
R-IN
+15V
-15V
+6V
KIA4559
IC801
IC807
SSM-2126
MC14094
IC806
VR801
50K(A)
MASTER
VOLUME
IC802
KIA4559P
IC803
KIA4559P
IC808
LV-1000
256K D-RAM
IC809
MC14094
IC810
IC811
LC7822
IC812
TC9299
IC804
KIA4559
IC805
KIA4559P
IC813
TA7291S
X-TAL801
CST8M
Q801
BKTA1267
Q802
DTC114YS
Q803
DTC114YS
Q804
DTC114YS
Q805
DTA114YS
Q806
BKTC3199
(BUILT IN MOTOR VOLUME)
CP303
FROM FRONT B'D
DA
CK
C-BASS
ST-9299
VOL-DW
VOL-UP
VOL-LED
ST-7822
ST4094(B)
F-M
C-M
R-M
CP602
FROM TONE B'D
+15V
-15V
L-OUT
G
R-OUT
CINEMA-BASS
CP654
TO PRE I/O B'D
C-OUT
G
S-OUT
G
M-REAR
M-CENTER
M-FRONT
CN208
TO AMP101 B'D
CN204
TO AMP302 B'D
CP452
FROM MAIN B'D
SP-A
SP-B
CENTER
REAR
L201C
0.5UH
FROM SW-2 B'D
ONLY FOR 'D' VERSION
FOR A.B.K. VERSION
FOR D VERSION
FOR A VERSION
RLY400
HRCR313DC12V
Q400
2SC1740S
IC400
GD7806
CP302
FROM FRONT B'D
TO MAIN B'D
6V
AC-FIL
AC-FIL
-30V
6V
G
P/D
ST/BY
F400
A:NB350mA
D:T 500mA
K:NB500mA
F401
T2A/250V
F402
A:SB6A 125V
D:T 4A 250V
K:NB4A 250V
CN401
CN402
CP401
CP402
CN403
CN404
CN405
THER. FUSE
CN209
TO AMP101 B'D
CN201
TO AMP302 B'D
CP103
FROM MAIN B'D
CP601
FROM TONE B'D
CN654
FROM SURR B'D
Q651
KTD1303
Q653
KTD1303
Q654
KTD1303
Q655
KTD1303
Q656
KTD1303
Q658
DTA114YS
Q659
DTA114YS
Q660
DTA114YS
MAIN-IN
SUBWOOFER OUT
FRONT PRE-OUT
CENTER OUT
REAR OUT
REAR OUT
CENTER OUT